

SHAPING THE MESSAGE, DISTORTING
THE SCIENCE: MEDIA STRATEGIES TO
INFLUENCE SCIENCE POLICY

HEARING
BEFORE THE
SUBCOMMITTEE ON INVESTIGATIONS AND
OVERSIGHT
COMMITTEE ON SCIENCE AND
TECHNOLOGY
HOUSE OF REPRESENTATIVES
ONE HUNDRED TENTH CONGRESS
FIRST SESSION

MARCH 28, 2007

Serial No. 110-17

Printed for the use of the Committee on Science and Technology



**SHAPING THE MESSAGE, DISTORTING THE SCIENCE: MEDIA STRATEGIES TO INFLUENCE
SCIENCE POLICY**

**SHAPING THE MESSAGE, DISTORTING
THE SCIENCE: MEDIA STRATEGIES TO
INFLUENCE SCIENCE POLICY**

HEARING
BEFORE THE
SUBCOMMITTEE ON INVESTIGATIONS AND
OVERSIGHT
COMMITTEE ON SCIENCE AND
TECHNOLOGY
HOUSE OF REPRESENTATIVES
ONE HUNDRED TENTH CONGRESS

FIRST SESSION

MARCH 28, 2007

Serial No. 110-17

Printed for the use of the Committee on Science and Technology



Available via the World Wide Web: <http://www.science.house.gov>

U.S. GOVERNMENT PRINTING OFFICE

34-337PS

WASHINGTON : 2007

For sale by the Superintendent of Documents, U.S. Government Printing Office
Internet: bookstore.gpo.gov Phone: toll free (866) 512-1800; DC area (202) 512-1800
Fax: (202) 512-2104 Mail: Stop IDCC, Washington, DC 20402-0001

COMMITTEE ON SCIENCE AND TECHNOLOGY

HON. BART GORDON, Tennessee, *Chairman*

JERRY F. COSTELLO, Illinois	RALPH M. HALL, Texas
EDDIE BERNICE JOHNSON, Texas	F. JAMES SENSENBRENNER JR., Wisconsin
LYNN C. WOOLSEY, California	LAMAR S. SMITH, Texas
MARK UDALL, Colorado	DANA ROHRABACHER, California
DAVID WU, Oregon	KEN CALVERT, California
BRIAN BAIRD, Washington	ROSCOE G. BARTLETT, Maryland
BRAD MILLER, North Carolina	VERNON J. EHLERS, Michigan
DANIEL LIPINSKI, Illinois	FRANK D. LUCAS, Oklahoma
NICK LAMPSON, Texas	JUDY BIGGERT, Illinois
GABRIELLE GIFFORDS, Arizona	W. TODD AKIN, Missouri
JERRY MCNERNEY, California	JO BONNER, Alabama
PAUL KANJORSKI, Pennsylvania	TOM FEENEY, Florida
DARLENE HOOLEY, Oregon	RANDY NEUGEBAUER, Texas
STEVEN R. ROTHMAN, New Jersey	BOB INGLIS, South Carolina
MICHAEL M. HONDA, California	DAVID G. REICHERT, Washington
JIM MATHESON, Utah	MICHAEL T. MCCAUL, Texas
MIKE ROSS, Arkansas	MARIO DIAZ-BALART, Florida
BEN CHANDLER, Kentucky	PHIL GINGREY, Georgia
RUSS CARNAHAN, Missouri	BRIAN P. BILBRAY, California
CHARLIE MELANCON, Louisiana	ADRIAN SMITH, Nebraska
BARON P. HILL, Indiana	
HARRY E. MITCHELL, Arizona	
CHARLES A. WILSON, Ohio	

SUBCOMMITTEE ON INVESTIGATION AND OVERSIGHT

HON. BRAD MILLER, North Carolina, *Chairman*

JERRY F. COSTELLO, Illinois	F. JAMES SENSENBRENNER JR., Wisconsin
EDDIE BERNICE JOHNSON, Texas	DANA ROHRABACHER, California
DARLENE HOOLEY, Oregon	TOM FEENEY, Florida
STEVEN R. ROTHMAN, New Jersey	MICHAEL T. MCCAUL, Texas
BRIAN BAIRD, Washington	RALPH M. HALL, Texas
BART GORDON, Tennessee	

DAN PEARSON *Subcommittee Staff Director*

EDITH HOLLEMAN *Subcommittee Counsel*

JAMES PAUL *Democratic Professional Staff Member*

DOUG PASTERNAK *Democratic Professional Staff Member*

KEN JACOBSON *Democratic Professional Staff Member*

TOM HAMMOND *Republican Professional Staff Member*

STACEY STEEP *Research Assistant*

CONTENTS

March 28, 2007

Witness List	Page 2
Opening Statements	
Statement by Representative Brad Miller, Chairman, Subcommittee on Investigations and Oversight, Committee on Science and Technology, U.S. House of Representatives	3
Written Statement	3
Statement by Representative Dana Rohrabacher, Member, Subcommittee on Investigations and Oversight, Committee on Science and Technology, U.S. House of Representatives	4
Statement by Representative Bart Gordon, Chairman, Committee on Science and Technology, U.S. House of Representatives	5
Prepared Statement by Representative F. James Sensenbrenner Jr., Ranking Minority Member, Subcommittee on Investigations and Oversight, Committee on Science and Technology, U.S. House of Representatives	6
Prepared Statement by Representative Jerry F. Costello, Member, Subcommittee on Investigations and Oversight, Committee on Science and Technology, U.S. House of Representatives	8
Witnesses:	
Mr. Sheldon Rampton, Research Director, Center for Media and Democracy, Madison, Wisconsin; Co-author, Trust Us We're Experts: How Industry Manipulates Science and Gambles With Your Future	8
Oral Statement	11
Written Statement	21
Biography	21
Dr. James J. McCarthy, Alexander Agassiz Professor of Biological Oceanography, Harvard University; Board Member, Union of Concerned Scientists	21
Oral Statement	23
Written Statement	23
Mr. Tarek F. Maassarani, Staff Attorney, Government Accountability Project	40
Oral Statement	41
Written Statement	41
Mr. Jeff Kueter, President, George C. Marshall Institute	47
Oral Statement	49
Written Statement	57
Biography	57
Discussion	57
Climate Change: Industry Reaction	57
Climate Change: Scientific Reaction	57
Climate Change: Government Reaction	58
Funding for Climate Change Skeptics	59
Scientists as Policy Advisors	61
Recommendations	63
Administration Position on Climate Change	65
Climate Change Skeptics	67
Freedom of Information Act Requests	70
Science Publishing Concerns	70
Political Pressure on Scientists	73

Appendix 1: Answers to Post-Hearing Questions

Mr. Sheldon Rampton, Research Director, Center for Media and Democracy, Madison, Wisconsin; Co-author, <i>Trust Us We're Experts: How Industry Manipulates Science and Gambles With Your Future</i>	82
Dr. James J. McCarthy, Alexander Agassiz Professor of Biological Oceanog- raphy, Harvard University; Board Member, Union of Concerned Scientists ..	85
Mr. Tarek F. Maassarani, Staff Attorney, Government Accountability Project .	88
Mr. Jeff Kueter, President, George C. Marshall Institute	89

Appendix 2: Additional Material for the Record

<i>Redacting the Science of Climate Change: An Investigative and Synthesis Report</i> , by Tarek Maassarani, Government Accountability Project, March 2007	92
<i>Smoke, Mirrors & Hot Air: How ExxonMobil Uses Big Tobacco's Tactics to Manufacture Uncertainty on Climate Science</i> , Union of Concerned Sci- entists, January 2007	231
<i>Atmosphere of Pressure: Political Interference in Federal Climate Science</i> , Union of Concerned Scientists, Government Accountability Project, Feb- ruary 2007	299

**SHAPING THE MESSAGE, DISTORTING THE
SCIENCE: MEDIA STRATEGIES TO INFLU-
ENCE SCIENCE POLICY**

WEDNESDAY, MARCH 28, 2007

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON INVESTIGATIONS AND OVERSIGHT,
COMMITTEE ON SCIENCE AND TECHNOLOGY,
Washington, DC.

The Subcommittee met, pursuant to call, at 2:00 p.m., in Room 2318 of the Rayburn House Office Building, Hon. Brad Miller [Chairman of the Subcommittee] presiding.

BART GORDON, TENNESSEE
CHAIRMAN

RALPH M. HALL, TEXAS
RANKING MEMBER

U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON SCIENCE AND TECHNOLOGY

SUITE 2320 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-6301
(202) 225-6375
TTY: (202) 226-4410
<http://science.house.gov>

Investigations & Oversight Subcommittee

Hearing on

***“Shaping the Message, Distorting the Science:
Media Strategies to Influence Science Policy”***

2318 Rayburn House Office Building
Washington, DC

Wednesday, March 28, 2007
2:00 p.m. – 4:00 p.m.

WITNESS LIST

Dr. James J. McCarthy

*Alexander Agassiz Professor of Biological Oceanography,
Harvard University;
Board Member, Union of Concerned Scientists*

Mr. Sheldon Rampton

*Research Director, Center for Media and Democracy;
Co-author of “Trust Us, We’re Experts!”*

Mr. Tarek Maassarani

Staff Attorney, Government Accountability Project

Mr. Jeff Kueter

President, Marshall Institute.

Chairman MILLER. The Committee will come to order on today's hearing, *Shaping the Message, Distorting the Science: Media Strategies to Influence Science Policy*.

Ronald Reagan said that facts were stubborn things. Mr. Rohrabacher may have written those words. The topic of today's hearing is a concerted effort by opponents of measures to reduce greenhouse gas emissions, to bully scientific facts into submission, and, under intense pressure, the facts about global warming caved in and proved much more elastic, much less stubborn than Ronald Reagan had us believe. At least that is how it has appeared to the public. According to the *New York Times*, opponents of the Kyoto Protocol in 1998 began recruiting scientists who believed or at least would say that evidence of global warming was insubstantial and evidence that greenhouse gas emissions were a cause of global warming was especially dubious.

Reviewed studies by climate scientists were almost unanimous in finding that global warming was real and that greenhouse gas emissions were a major part of it. But in the popular press the question was treated as controversial among scientists. Television news programs usually featured one scientist who explained the overwhelming consensus view of climate scientists and one made-for-television expert who took the opposite view. To the average citizen it looked like a real debate between scientific peers. In fact, the skeptics were in the indirect employ of the oil and gas industry and that obviously conflict of interest was rarely disclosed. Few paid skeptics did any original research, many were not even trained in the fields in which they claimed expertise, and most simply specialized in attacking as "junk science" the careful, legitimate research that was published in journals and tested by rigorous peer review.

According to the testimony we will hear today, since 2001, the Bush Administration has been part of the effort to manipulate the public debate about climate change. The Bush Administration, at the urging also of the oil and gas industry, muzzled Government scientists whose research supported the consensus view of climate scientists, adding to the public impression that there was substantial doubt among scientists. Press officers whose experience was in politics, not science, editor-suppressed press releases about government research, acted as monitors for government scientists during press interviews, and required that politically-reliable scientists speak to the press for each agency.

The approved agency spokesman sometimes treated as outlandish as urban legend, the considered view of most scientists at the agency. There is much at stake here. We need to rely on sound scientific research to inform our decision. Scientific research should have no party affiliation.

At this time Mr. Sensenbrenner, the Ranking Member, is unable to be here today, but the Chair recognizes Mr. Rohrabacher, the distinguished Member from California, for his opening statement. [The prepared statement of Chairman Miller follows:]

PREPARED STATEMENT OF CHAIRMAN BRAD MILLER

Ronald Reagan said that facts were stubborn things. The topic of today's hearing is a concerted effort by opponents of measures to reduce greenhouse gas emissions to bully scientific facts into submission. And under intense pressure, the facts about

global warming caved in, and proved much more elastic than Ronald Reagan had us believe.

At least, that is how it has appeared to the public.

According to the *New York Times*, opponents of the Kyoto Protocol in 1998 began recruiting scientists who believed—or at least would say—that evidence of global warming was insubstantial, and evidence that greenhouse gas emissions were a cause of global warming was especially dubious. Peer-reviewed studies by climate scientists were almost unanimous in finding that global warming was real and that greenhouse gas emissions were a major cause of it.

But in the popular press, the question was treated as controversial among scientists.

Television news programs usually featured one scientist who explained the overwhelming consensus view of legitimate climate scientists, and one made-for-television “expert” who took the opposite view. To the average citizen, it looked like a real debate between scientific peers.

In fact, the skeptics were in the indirect employ of the oil and gas industry, and that obvious conflict of interest was rarely disclosed. Few paid skeptics did any original research, many were not even trained in the fields in which they claimed expertise, and most simply specialized in attacking as “junk science” the careful, legitimate research that was published in learned journals and tested by rigorous peer review.

According to the testimony we will hear today, since 2001 the Bush Administration has been part of the effort to manipulate public debate about climate change.

The Bush Administration, at the urging of the oil and gas industry, muzzled government scientists whose research supported the consensus view of climate scientists, adding to the public impression that there was substantial doubt among scientists. Press officers whose experience was in politics, not science, edited or suppressed press releases about government research, acted as “minders” for government scientists during press interviews, and required that politically-reliable scientists speak to the press for each agency. The approved agency spokesmen sometimes treated as outlandish, as urban legend, the considered view of most scientists at the agency.

There is much at stake here. We need to rely on sound, dispassionate scientific research to inform our decisions. Scientific research should have no party affiliation.

Mr. ROHRABACHER. Thank you very much, Mr. Chairman. Let me note if there was ever a case of the pot calling the kettle black, this hearing is that example. For Pete’s sakes, we have had tens of billions of dollars over the last 20 years spent on climate change research, and in the last 10 years or so, it may have been 15 years, there is ample evidence, and I will be submitting these quotes for the record, of prominent scientists who have been complaining that they have not been able to get grants if they voice skepticism about the global warming “consensus.”

Mr. Chairman, the sound dispassionate science does not mean that you can dismiss people who disagree with a specific idea that is trying to be expressed by claiming that you represent a consensus. What I see happening more and more in this debate over global warming is that those people who are advocating this position end up not answering the charges of very respectable scientists, and again, one need only look at my website to find the names of hundreds of these prominent scientists from major universities who are not part of this so-called consensus but now instead of answering the specific scientific challenges to these theories, what we find is a dismissal in the public debate of even acknowledging that there is a point being made and the point then being dismissed.

Now, I will have to tell you, that is about as arrogant and about as anti-scientific an attitude, and it is prevailing in this debate. I mean, I don’t want to hear about consensus anymore, proving that someone is right. The fact is that there has been consensus in science in the past that have been dead wrong, and one or two indi-

viduals without any government grants because all the grants were going to the consensus, have made it, managed to change public opinion and scientific opinion on various issues. History is replete with examples of this. Instead, today we have people who are claiming to the mantle of sound, dispassionate science who are dismissing the arguments of the other side.

One of the ways they can do this is instead of answering the arguments, just challenge who is paying for your research. Well, first of all, not all research is being paid to those people who disagree with illegal, excuse me, say illegal immigration, with global warming. The fact is not all people who are paid for that research are necessarily wrong. I mean, the fact is that there are special interests on both sides of this issue. We have organizations, today we will hear complaints that the oil companies are providing a certain degree of support for research, trying to find answers to some of the arguments that are being presented. Let me note, that doesn't make their findings any less wrong. Their findings should be examined just as those arguments that are being presented on the pro-global warming side, which are being funded by, you know, perhaps at a degree 100 times more spending on that side by special interest groups, let me add, than on the side of those people who are trying to disprove that theory.

So today I am anxious to get down to the nitty gritty with the witnesses. I want to see why the fact that we can claim a consensus, which I have been hearing about for 10 years, even as we hear more and more scientists saying, I was cut out of getting any kind of research contracts unless I agreed with global warming. I will put examples of this, five examples of this into the Congressional record and into the record of this hearing. These are people who, for example, who are the heads of major universities' science departments and members of—anyway, we will go through that. There is a member right here of the Director of Research for the Dutch, Royal Dutch Meteorological Institute who is now a Professor of aeronautical engineering at Penn State University, talks about as others from the University of Colorado, how people are, in the scientific community, are being basically influenced by the lure of getting Government grants to do research that will come up with a conclusion in favor of global warming, and that is skewing the research going on in this country.

So in other words, this hearing is, if it is looking for scientists who are being pressured to do the wrong thing, perhaps we are looking in the wrong direction, because the pressure may be coming from exactly the opposite side, the side that is claiming to represent a consensus in order to suppress debate on this issue.

Thank you very much.

Chairman MILLER. Thank you, Mr. Rohrabacher. We also have with us the Chairman of the Science and Technology Committee, Mr. Gordon of Tennessee. Mr. Gordon, I will recognize you for an opening statement.

Chairman GORDON. Thank you, Chairman Miller, and my friend, Ranking Member Rohrabacher. I am not sure who is the kettle and who is the pot here today, but I do know that gravity and climate change—global warming—are two things that are pretty well established.

Just the other day the IPCC, which was composed of 113 nations, unanimously, including the United States and President Bush, unanimously endorsed that within 100 percent certainty there is global warming. And so it really is tough to make good policy from bad information, and it seems that in this town there is a new industry developing, and that industry is to try to create doubt where there is little doubt, not for scientific integrity, but to provide a hook for special interests, then to try to create that doubt. And I think it is a legitimate area for discussion. I think this is the first of a good series of hearings, and I think this is an area where we need to shine some sunlight. And I compliment the Chairman for doing this, and I am sure that those folks who don't agree, they have got a witness here today and will have ample opportunity to discuss that.

So, again, thank you for calling this hearing.

Chairman MILLER. Thank you, Mr. Gordon. I think the only other Member we have here is Mr. Baird, and Mr. Baird, I doubt you have an opening statement, but if you do, you certainly—no. I am mistaken.

Mr. BAIRD. I will make a very, very brief one. I thank the Chair for hosting this. I would just say that I have concerns about the possible abuse or misuse of science on all sides. I have seen it in both directions. I have seen members of industry hire hired guns to present a certain askew, and I have seen members of environmental groups do the reverse.

As a scientist myself I place a high priority on scientific integrity, regardless of the source. And so I applaud the Chairman for hosting today's hearing, and I hope we will look at abuses of science on all sides, because to whatever extent the data are being spun or distorted, it does a disservice to this public. And so I applaud the Chair for hosting this, and I look forward to the testimony.

Chairman MILLER. Thank you, Mr. Baird.

[The prepared statement of Representative Sensenbrenner follows:]

PREPARED STATEMENT OF REPRESENTATIVE F. JAMES SENSENBRENNER JR.

The title of today's hearing has an odious ring—"Shaping the Message, Distorting the Science." These accusations, leveled against ExxonMobil and against the Administration, have a grave tone. If it were not for the ubiquitous press headlines declaring the world's imminent demise from global warming, the title of today's hearing could have lead us to falsely conclude that the climate change debate was being stifled. I am now the Ranking Member on a Committee devoted almost entirely to climate change, and a recent poll by *Time Magazine* found that 88 percent of Americans believe that the Earth is getting warmer. All of this makes me wonder why we are here and what relationship this hearing has with reality.

The alleged distortion of science is purportedly happening in two different ways. First, major industries, particularly ExxonMobil, are allegedly deceiving the masses by intentionally funding and trumpeting false science. Second, the Administration is allegedly curbing federal scientists from presenting scientific findings that are at odds with its policies. Before we start screaming "McCarthyism," we should examine how little merit these accusations actually have.

The first alleged distortion of science was purportedly perpetrated by ExxonMobil. The report "Smoke, Mirrors, and Hot Air" by the Union of Concerned Scientists (UCS) accuses ExxonMobil of using "big tobacco's tactics to manufacture uncertainty on climate science." The crux of UCS' argument relies on \$16 million that ExxonMobil spent over a period of seven years to promote science that UCS disagrees with. UCS concedes that what amounts to a little over \$2 million per year

is a modest sum of money for a company that records profits of \$100 million per day, but nonetheless, argues that ExxonMobil has been “remarkably effective at manufacturing uncertainty about the scientific consensus on global warming.”

ExxonMobil’s efforts seem especially remarkable in light of the fact that ExxonMobil spends significantly more money to fund projects that even UCS concedes are credible. To name a few, ExxonMobil has supported projects with Carnegie Mellon, the Hadley Centre for Climate Prediction, Columbia University, the Massachusetts Institute of Technology, the University of Texas, and Yale. In just one instance, ExxonMobil pledged \$100 million over ten years for Stanford University’s Global Climate and Energy Project, which seeks to develop “new energy technologies that will permit the development of global energy systems with significantly lower global warming emissions.” Is the work at Stanford University similarly suspect? How can we fairly accuse ExxonMobil of spreading a campaign of misinformation when it is funding a full spectrum of scientific research?

The second method of scientific distortion purportedly comes from the Administration. Despite its accusatory title, the Government Accountability Project’s report, “Redacting the Science of Climate Change,” concedes that it found “no incidents of direct interference in climate change research.” Regarding climate change scientists, the report concludes:

[T]he investigation by the Government Accountability Project has uncovered no concrete evidence that political actors are directly and willfully interfering with this fundamental aspect of scientific work.

Thus, despite its lengthy report and its year long investigation, GAP did not find any evidence that the Administration had interfered with climate change research.

Just as the integrity of federal research is not attacked, there are no serious allegations that the Administration is concealing the results of this research from the public. When asked about scientific integrity at his agency, Robert Atlas, Director of the Atlantic Oceanographic and Meteorological Laboratory (AOML) at the National Oceanic and Atmospheric Administration, responded:

I have not observed any political interference with our ability at AOML to communicate scientific information. All of our scientists are free to publish their results in the refereed scientific literature and to present high quality research at national or international conferences. Only the quality of the research is scrutinized and scientists are encouraged to present their conclusions that are supported by their research.

This sentiment is echoed by the scientific community. Eighty-eight percent of federal climate scientists surveyed believe that Federal Government climate research is of generally excellent quality and 70 percent believe that federal climate research is independent and impartial.

So, to recap, there is no evidence that the policy-makers seek to control or influence scientific research, federal scientists are freely encouraged to publish the results of their research, and the relevant scientists overwhelmingly believe that their research is independent and impartial. And yet, the title of today’s hearing is “Shaping the message, Distorting the Science?” Wouldn’t “Partisanship for the Sake of Partisanship” have been more accurate? If the science is independent and the results are freely published, the only thing policy-makers are controlling is policy. Surely, the Federal Government has a right to oversee federal scientists and speak with a consistent message.

Furthermore, both NASA and NOAA have taken steps to address potential problems. NASA introduced a media policy that was widely accepted by the scientific community, and NOAA plans to adopt a similar policy in the coming weeks. Additionally, the Inspectors General at the Department of Commerce and NASA, as well as the Government Accountability Office, all have ongoing investigations related to this topic. The Full Committee plans to hold a hearing on this topic after these reports are released. We will have an opportunity to examine any potential problems, in detail, when these reports are released.

I believe very strongly in Congress’ responsibility to hold the executive branch accountable. And I believe that the Federal Government should pursue policies that are both environmentally and economically sound. I look forward to an opportunity to leave these partisan investigations behind and focus on these shared goals.

[The prepared statement of Representative Costello follows:]

PREPARED STATEMENT OF REPRESENTATIVE JERRY F. COSTELLO

Good afternoon. Thank you Mr. Chairman for calling this hearing to listen to testimony from various witnesses on the extent to which political interference did or did not alter federal climate change research and the dissemination of scientific information.

This is the first hearing by the Subcommittee addressing the issue of science and the media. For the past few years, there have been repeated reports about efforts within the science agencies to control which federal scientists get access to conferences or the press. Further, there have been additional reports of how big oil have used some of their profits to create the impression of doubt in the science surrounding climate change. Today's hearing will provide Members the opportunity to receive "big picture" testimony on what has happened and what we know.

The manipulation of science for public relations or political advantage is intolerable and inevitably has a corrupting effect on science itself. I believe greater public transparency regarding the sponsorship of science and of organizations that claim to speak on scientific matters is critically important. Further, the public and policy-makers have a right and to know who is funding research and how it may be affecting the outcome of the science.

I welcome our panel of witnesses and look forward to their testimony.

Chairman MILLER. I will now introduce our witnesses. First is Mr. Sheldon Rampton, the Research Director at the Center for Media and Democracy and co-author of *Trust Us, We're Experts: How Industry Manipulates Science and Gambles With Your Future*.

Second is Dr. James McCarthy, the Alexander Agassiz Professor of Biological Oceanography at Harvard University, and President-Elect of the American Association for the Advancement of Science and a member of the Board of the Union of Concerned Scientists.

Mr. Tarek Maassarani, Staff Attorney with the Government Accountability Project and author of the report, *Redacting the Science of Climate Change*, and finally, Mr. Jeff Kueter, President of the George C. Marshall Institute.

You have all submitted, I think, written testimony, which will be made part of the record. Thank you for that. Your oral testimony will be limited to five minutes. And after the entire panel has testified the Members of the Committee will have five minutes each to ask questions.

It is the practice of this subcommittee to take testimony under oath. Do any of you have any objection to taking an oath, swearing an oath? If not, you also have the right to be represented by counsel. Do any of you have counsel here? All right. If you would all now please stand and raise your right hand. Thank you.

[Witnesses sworn]

Chairman MILLER. Thank you. We will begin with Mr. Rampton.

STATEMENT OF MR. SHELDON RAMPTON, RESEARCH DIRECTOR, CENTER FOR MEDIA AND DEMOCRACY, MADISON, WISCONSIN; CO-AUTHOR, TRUST US WE'RE EXPERTS: HOW INDUSTRY MANIPULATES SCIENCE AND GAMBLES WITH YOUR FUTURE

Mr. RAMPTON. Well, thank you very much for holding this hearing and for inviting me to testify. I am going to speak about the general practice of science manipulation for public relations purposes. I understand some of the other speakers will focus more specifically on the issue of global warming.

The power that science wields in modern society is a reflection of the fact that it has shown the ability to create knowledge that is as reliable as any product of human endeavor. The very prestige

of science, however, also makes it an attractive tool for manipulating public opinion. You can find science being used for that purpose, for example, in the advertisements and television commercials which announce that laboratory tests prove toothpaste X whitens teeth whiter or that nine out of 10 doctors agree that brand X is better than brand Y.

Advertising, however, is only the most visible aspect of a variety of modern persuasive techniques that include public relations and lobbying, all branches of what should more properly be termed a modern propaganda industry. Some of these techniques are actually more subtle and hidden than advertising. The use of endorsements by scientific experts to sell a product or policy is often done without public disclosure that the experts have been recruited or even paid to do so. This technique has become so common, in fact, that the public relations industry actually has a standard term for it. They call it the third-party technique.

The idea behind his phrase is that the PR firm's client, typically some company, industry, or other special interest, is the first party, interested in delivering some persuasive message to a second party, the audience. However, experience shows that if the message is seen as coming directly from the client, the audience will greet the message with skepticism because it is so obviously self-serving. To give the message more credibility, therefore, lobbyists, public relations firms find that it helps if they can use a third party who seems independent to deliver that message for them. One public relations executive has explained the third-party technique as "put your words in someone else's mouth." It turns out that the prestige and power of science makes scientists, academics, doctors, and other professional experts very useful third-party spokespersons, if they can be recruited for this purpose.

Sometimes this technique is used to exaggerate the benefits of a product. Other times it is used to create doubt about a product's hazards. In public policy debates it can be used to cast doubt about the seriousness of problems requiring government action. Conversely, sometimes it is used to exaggerate dangers in order to build pressure for legislation or other government action that the client desires.

Scientific journals are now routinely used to serve companies' marketing and public policy objectives, sometimes with serious negative consequences for the public. The tobacco industry, of course, is well known for its public relations manipulations of science. Many instances of this have now become public knowledge, thanks to whistleblowers and lawsuits that resulted in the public release of millions of pages of previously secret industry documents. The first clear scientific evidence showing the link between smoking and lung cancer emerged in the early 1950s, but public recognition of the extent of this hazard was delayed for decades due to aggressive public relations by the tobacco industry. And even today the industry is involved in rearguard efforts to downplay the dangers of hazards such as secondhand smoke.

A few years ago, for example, documents came to light regarding an industry-funded campaign in the 1990s to plant sympathetic letters and articles in influential medical journals. Tobacco companies had secretly paid 13 scientists a total of \$156,000 simply to sign

their names to these letters and articles. One biostatistician received \$10,000 for writing a single, 8-page letter that was published in the *Journal of the American Medical Association*. Another received \$20,000 for writing four letters and an opinion piece to the *Lancet*, the *Journal of the National Cancer Institute* and the *Wall Street Journal*. These scientists did not even have to write the letters themselves. The tobacco industry's law firms did the actual drafting and editing. So in essence they were being paid for their autographs.

The tobacco industry is hardly alone, however, in attempting to manipulate the scientific publishing process. As the *Wall Street Journal* reported in December, 2005, "Many of the articles that appears in scientific journals under the byline of prominent academics are actually written by ghostwriters in the pay of drug companies." Used by doctors to guide their care of patients, these "seemingly objective articles are often part of a marketing campaign." To promote the diet-drug combo fen-phen, for example, Wyeth-Ayerst Laboratories commissioned ghostwriters to write 10 articles for publication in peer-reviewed medical journals. After fen-phen was linked to heart valve damage and lung disease, the company was forced to pull the drugs from the market. Subsequent lawsuits filed by injured fen-phen users unearthed internal company documents showing that the drug company had also edited the draft articles to play down and occasionally delete descriptions of side effects. The final articles were published under the names of prominent researchers, one of whom claimed later in courtroom testimony that he had no idea that a pharmaceutical company had commissioned the article on which his own name appeared. "It is really deceptive," he told the court. "It sort of makes you uneasy."

So how does a doctor's name actually appear as the primary author of a study without him knowing who sponsored it? The process in this case involved an intermediary hired by the drug company names Excerpta Medica. Excerpta received \$20,000 for each article which was written by its ghostwriters. It then lined up well-known university researchers and paid them honoraria of \$1,000 to \$1,500 to edit their drafts and lend their names to the final work. One of these brand-name researchers even sent a letter back praising Excerpta's ghostwriting skills. He joked, "Perhaps I can get you to write all my papers for me! My only general comment is that this piece may make fen-phen sound better than it really is."

A similar pattern recurs on issue after issue; air quality, water quality, product safety, and nutrition. One internal memorandum from a public relations firm to a client boasted about the range of issues which they managed for "the following industries impacted by science and environmental policy decisions."

Chairman MILLER. Mr. Rampton, if you could summarize in just a sentence or two, please.

Mr. RAMPTON. Just a sentence or two? All right. The manipulation of science for public relations or political advantage inevitably has a corrupting effect on science itself. It undermines the integrity and objectivity of scientific research. What is needed, therefore, is greater public transparency regarding the sponsorship of science and of organizations that claim to speak on scientific matters.

[Statement of Mr. Rampton follows:]

PREPARED STATEMENT OF SHELDON RAMPTON

The power that science wields in modern society is a reflection of its ability to create knowledge that is as reliable as any product of human endeavor. The very prestige of science, however, also makes it an attractive tool for manipulating public opinion. You can find science being used for that purpose, for example, in the advertisements and television commercials which announce that "laboratory tests prove toothpaste X whitens teeth whiter," or "nine out of ten doctors agree" that brand X is better than brand Y. Advertising, however, is only the most visible aspect of a variety of modern persuasive techniques that include public relations and lobbying—all branches of what should more properly be termed a modern propaganda industry. Some of these techniques are actually more subtle and hidden than advertising. The use of endorsements by scientific experts to sell a product or policy is often done without public disclosure that the experts have been recruited or paid to do so. This technique has become so common that the public relations industry has a standard term for it. They call it the "third party technique."

The idea behind this phrase is that the PR firm's client—typically some company, industry or other special interest—is the "first party" interested in delivering some persuasive message to a "second party," its audience. However, experience shows that if the message is seen as coming directly from the client, the audience will treat the message with skepticism because it is so obviously self-serving. To give the message more credibility, therefore, lobbyists and PR firms find that it helps if they can use a third party who seems independent to deliver it for them. One public relations executive has explained the third party technique as, "Put your words in someone else's mouth." It turns out that the prestige and power of science makes scientists, academics, doctors and other professional experts very useful third-party spokespersons if they can be recruited for this purpose.

Sometimes this technique is used to exaggerate the benefits of a product. Other times it is used to create doubt about a product's hazards. In public policy debates, it can be used to cast doubt about the seriousness of problems requiring government action. Conversely, sometimes it is used to exaggerate dangers in order to build pressure for legislation or other government action that the client desires.

Scientific journals are now routinely used to serve companies' marketing and public policy objectives, sometimes with serious consequences. The tobacco industry is well known for its PR manipulations of science. Many instances of this have now become public knowledge thanks to whistleblowers and lawsuits that resulted in the public release of millions of pages of once-secret industry documents. Clear scientific evidence showing the link between smoking and lung cancer first emerged in the early 1950s. Public recognition of the extent of this hazard was delayed for decades due to aggressive public relations by the tobacco industry, and even today the industry is involved in rear-guard efforts to downplay the dangers of hazards such as secondhand smoke. A few years ago, for example, documents came to light regarding an industry-sponsored campaign in the early 1990s to plant sympathetic letters and articles in influential medical journals. Tobacco companies had secretly paid 13 scientists a total of \$156,000 simply to write them. One biostatistician received \$10,000 for writing a single, eight-paragraph letter that was published in the *Journal of the American Medical Association*. Another received \$20,137 for writing four letters and an opinion piece to the *Lancet*, the *Journal of the National Cancer Institute* and the *Wall Street Journal*. These scientists did not even have to write the letters themselves. The tobacco industry's law firms did the actual drafting and editing.

The tobacco industry is hardly alone, however, in attempting to manipulate the scientific publishing process. As the *Wall Street Journal* reported in December 2005, "Many of the articles that appear in scientific journals under the byline of prominent academics are actually written by ghostwriters in the pay of drug companies." Used by doctors to guide their care of patients, these "seemingly objective articles. . . are often part of a marketing campaign." To promote the diet-drug combo fen-phen, for example, Wyeth-Ayerst Laboratories commissioned ghostwriters to write ten articles for publication in peer-reviewed medical journals. After fen-phen was linked to heart valve damage and lung disease, the company was forced to pull the drugs from the market. Subsequent lawsuits filed by injured fen-phen users unearthed internal company documents showing that Wyeth-Ayerst had also edited the draft articles to play down and occasionally delete descriptions of side effects. The final articles were published under the names of prominent researchers, one of whom claimed later in courtroom testimony that he had no idea that the pharmaceutical company had commissioned the article on which his own name appeared. "It's really deceptive," he told the court. "It sort of makes you uneasy."

How does a doctor's name appear in an article without him knowing who sponsored it? The process involved an intermediary hired by Wyeth-Ayerst named Excerpta Medica. Excerpta received \$20,000 for each article written by its ghostwriters. It then lined up well-known university researchers and paid them honoraria of \$1,000 to \$1,500 to edit the drafts and lend their names to the final work. One of the name-brand researchers even sent a letter back praising Excerpta's ghostwriting skills. He joked, "Perhaps I can get you to write all my papers for me! My only general comment is that this piece may make [fen-phen] sound better than it really is."

A similar pattern recurs on issue after issue—air quality, water quality, product safety, and nutrition. Scientists are seen by industry not as researchers who objectively study phenomena but as potential spokespersons to help promote positions favorable to their sponsors. This strategy has become so common that sometimes industry PR people use the term "independent scientist" without apparently thinking about what the word "independent" actually means. A few years ago, the *New York Times* obtained some leaked documents from the American Petroleum Institute, in which the Institute detailed its plans to spend \$600,000 to develop a team of pro-industry climate scientists who would dispute the link between greenhouse gas emissions and global warming. They planned to, in their words, "identify, recruit and train a team of five independent scientists to participate in media outreach." Somehow the authors of this plan never bothered to ask themselves how a scientist who has been specifically recruited and trained by the petroleum industry could be honestly described as "independent."

A converse strategy aims at *suppressing* independent scientific views, discoveries and evidence that are inconvenient to the industry or its lobbying interests. For example, the House Committee on Oversight and Government Reform recently released documents showing "hundreds of instances" where a former and current oil industry lobbyist had edited government reports to downplay the impact of human activities on global warming. The edits were by Philip A. Cooney, the former chief of staff of the White House Council on Environmental Quality. Cooney himself has no scientific credentials. He worked for the American Petroleum Institute prior to being appointed to his position within the Bush administration. He now works for ExxonMobil.

The manipulation of science for public relations or political advantage inevitably has a corrupting effect on science itself. It undermines the integrity and objectivity of scientific research. It creates confusion in the minds of policy-makers and the general public. What is needed, therefore, is greater public transparency regarding the sponsorship of science and of organizations that claim to speak on scientific matters. The public and policy-makers have a right and to know who is funding research, what strings are attached to that funding, and how it may be affecting the information we use to make decisions—especially decisions on policy matters that affect us all.

Research Funding, Conflicts of Interest, and the “Meta-methodology” of Public Relations

BY SHELDON RAMPTON AND JOHN STAUBER

The power that science wields in modern society is a reflection of its ability to create knowledge that is as reliable as any product of human endeavor. Its very prestige, however, also makes it an attractive tool for public relations and marketing purposes. We are all familiar with the commercials announcing that “laboratory tests prove” or “nine out of ten doctors agree” that brand X is better than brand Y. Advertising, however, is only the most visible aspect of modern industry propaganda. Many similar endorsement strategies have been developed by the public relations industry, which prides itself on working invisibly behind the scenes to place self-serving messages for its clients in the mouths of seemingly independent third party experts. Within the PR industry, in fact, this strategy has come to be known as the “third party technique.” Merrill Rose, Executive Vice-President of the Porter/Novelli PR firm, explains the technique succinctly: “Put your words in someone else’s mouth.”¹ Sometimes the technique is used to exaggerate the benefits of a product. Other times it is used to create doubt about a product’s hazards, or about criticisms that have been made of a company’s business practices.

PR firms use a variety of quasi-scientific methodologies themselves, such as opinion polling, demographics and psychology. At its core, however, public relations operates on assumptions that are antithetical to science. The ideological underpinning of the scientific endeavor is a belief that “the truth is out there” and that it can be grasped through rational human inquiry. “Spin,” however, is the art of arranging appearances, not substance. “In this era of exploding media technologies, there is no truth except the truth you create for yourself,” says Richard Edelman at Edelman Worldwide, one of the world’s largest PR firms.² As advertising executive Jack Trout observes, “Marketing is a battle of perception, not products. Truth has no bearing on the issue.”

Modern science considers itself scientific because it adheres to certain methodologies. It uses quantitative methods and measurable phenomena; its data is empirically derived and verifiable by others through experiments that can be reproduced; and, finally, its practitioners are impartial. Whereas ideological thinkers promulgate dogmas and defend them in the face of evidence to the contrary, scientists work with hypotheses which they modify when the evidence so dictates. When public relations recruits scientists to serve as “third party experts,” however, the techniques of PR function as a “meta-methodology” that can have a corrupting influence on research.

Publication Bias

The tobacco industry is well known for its PR manipulations of science, many of which have become public knowledge thanks to whistleblowers and lawsuits that have resulted in the public release of millions of pages of once-secret industry documents. In 1998, for example, documents came to light regarding an industry-sponsored campaign in the early 1990s to plant sympathetic letters and articles in influential medical journals. Tobacco companies had secretly paid 13 scientists a total of \$156,000 simply to write a few letters to influential medical journals. One biostatistician, Nathan Mantel of American University in Washington, received \$10,000 for writing a single, eight-paragraph letter that was published in the *Journal of the American Medical Association*. Cancer researcher Gio Batta Gori received \$20,137 for writing four letters and an opinion piece to the *Lancet*, the *Journal of the National Cancer Institute* and the *Wall Street Journal*. The scientists didn’t even have to write the letters themselves. Two tobacco-industry law firms were available to do the actual drafting and editing. In some cases, scientists were paid not just to write letters but entire scientific articles. In one case, the tobacco industry paid \$25,000 to a single scientist to write an article for the publication *Risk Analysis*. The same fee went to former EPA official John Todhunter and tobacco consultant W. Gary Flamm for an article titled “EPA Process, Risk Assessment-Risk Management Issues” which they published in the *Journal of Regulatory Toxicology and Pharmacology*, where Flamm served as a member of the journal’s editorial board. Not only

¹Merrill Rose, “Activism in the 90s: Changing Roles for Public Relations,” *Public Relations Quarterly*, Vol. 36, no. 3 (1991), pp. 28–32.

²Randall Rothenberg, “The Age of Spin,” *Esquire*, December 1996, p. 71.

did they fail to disclose that their article had been commissioned by the tobacco industry, journal editor C. Jelleff Carr later admitted he “never asked that question, ‘Were you paid to write that?’ I think it would be almost improper for me to do it.”³

The tobacco industry is hardly alone, however, in attempting to influence the scientific publishing process. A similar example of industry influence came to light in 1999 regarding the diet-drug combo fen-phen, developed by Wyeth-Ayerst Laboratories. Wyeth-Ayerst had commissioned ghostwriters to write ten articles promoting fen-phen as a treatment for obesity. Two of the ten articles were actually published in peer-reviewed medical journals before studies linked fen-phen to heart valve damage and an often-fatal lung disease, forcing the company to pull the drugs from the market in September 1997. In lawsuits filed by injured fen-phen users, internal company documents were subpoenaed showing that Wyeth-Ayerst had also edited the draft articles to play down and occasionally delete descriptions of side effects associated with the drugs. The final articles were published under the names of prominent researchers, one of whom claimed later that he had no idea that Wyeth had commissioned the article on which his name appeared. “It’s really deceptive,” said Dr. Albert J. Stunkard of the University of Pennsylvania, whose article was published in the *American Journal of Medicine* in February 1996. “It sort of makes you uneasy.”⁴

How does a doctor’s name appear on an article without him knowing who sponsored it? The process involved an intermediary hired by Wyeth-Ayerst—Excerpta Medica, Inc., which received \$20,000 for each article. Excerpta’s ghost writers produced first-draft versions of the articles and then lined up well-known university researchers like Stunkard and paid them honoraria of \$1,000 to \$1,500 to edit the drafts and lend their names to the final work. Stunkard says Excerpta did not tell him that the honorarium originally came from Wyeth. One of the name-brand researchers even sent a letter back praising Excerpta’s ghostwriting skills. “Let me congratulate you and your writer on an excellent and thorough review of the literature, clearly written,” wrote Dr. Richard L. Atkinson, professor of medicine and nutritional science at the University of Wisconsin Medical School. “Perhaps I can get you to write all my papers for me! My only general comment is that this piece may make dexfenfluramine sound better than it really is.”⁵

“The whole process strikes me as egregious,” said Jerome P. Kassirer, then-editor of the *New England Journal of Medicine*—“the fact that Wyeth commissioned someone to write pieces that are favorable to them, the fact that they paid people to put their names on these things, the fact that people were willing to put their names on it, the fact that the journals published them without asking questions.” Yet it would be a mistake to imagine that these failures of the scientific publishing system reflect greed or laziness on the part of the individuals involved. Naïveté might be a better word to describe the mindset of the researchers who participate in this sort of arrangement. In any case, the Wyeth-Ayerst practice is not an isolated incident. “This is a common practice in the industry. It’s not particular to us,” said Wyeth spokesman Doug Petkus.

“Pharmaceutical companies hire PR firms to promote drugs,” agrees science writer Norman Bauman. “Those promotions include hiring freelance writers to write articles for peer-reviewed journals, under the byline of doctors whom they also hire. This has been discussed extensively in the medical journals and also in the *Wall Street Journal*, and I personally know people who write these journal articles. The pay is OK—about \$3,000 for a six- to ten-page journal article.”

Even the *New England Journal of Medicine*—often described as the world’s most prestigious medical journal—has been involved in controversies regarding hidden economic interests that shape its content and conclusions. In 1986, for example, *NEJM* published one study and rejected another that reached opposite conclusions about the antibiotic amoxicillin, even though both studies were based on the same data. Scientists involved with the first, favorable study had received \$1.6 million in grants from the drug manufacturer, while the author of the critical study had refused corporate funding. *NEJM* proclaimed the pro-amoxicillin study the “authorized” version, and the author of the critical study underwent years of discipline and demotions from the academic bureaucracy at his university, which also took the side of the industry-funded scientist. Five years later, the dissenting scientist’s critical study finally found publication in the *Journal of the American Medical Association*, and other large-scale testing of children showed that those who took amoxicillin ac-

³David Hanners, “Scientists Were Paid to Write Letters: Tobacco Industry Sought to Discredit EPA Report,” *St. Louis Pioneer Dispatch*, August 4, 1998.

⁴Charles Ornstein, “Fen-phen Maker Accused of Funding Journal Articles,” *Dallas Morning News*, May 23, 1999, p. 1A.

⁵Ibid.

tually experienced lower recovery rates than children who took no medicine at all.⁶ In 1989, *NEJM* came under fire again when it published an article downplaying the dangers of exposure to asbestos while failing to disclose that the author had ties to the asbestos industry.⁷ In 1996, a similar controversy emerged when the journal ran an editorial touting the benefits of diet drugs, again failing to note that the editorial's authors were paid consultants for companies that sell the drugs.⁸

In November 1997, questions of conflict of interest arose again when the *NEJM* published a scathing review of Sandra Steingraber's book, *Living Downstream: An Ecologist Looks at Cancer*. Authored by Jerry H. Berke, the review described Steingraber as "obsessed. . .with environmental pollution as the cause of cancer" and accused her of "oversights and simplifications. . .biased work. . .notoriously poor scholarship. . . The focus on environmental pollution and agricultural chemicals to explain human cancer has simply not been fruitful nor given rise to useful preventive strategies. . . Living Downstream frightens, at times misinforms, and then scorns genuine efforts at cancer prevention through lifestyle change. The objective of *Living Downstream* appears ultimately to be controversy."⁹

Berke was identified alongside the review as "Jerry H. Berke, MD, MPH." The *NEJM* failed to disclose, however, that Berke was director of toxicology for W.R. Grace, one of the world's largest chemical manufacturers and a notorious polluter. A leading manufacturer of asbestos-containing building products, W.R. Grace has been a defendant in several thousand asbestos-related cancer lawsuits and has paid millions of dollars in related court judgments. It is probably best-known as the company that polluted the drinking water of the town of Woburn, Massachusetts, and later paid an \$8 million out-of-court settlement to the families of seven Woburn children and one adult who contracted leukemia after drinking contaminated water. During the Woburn investigation, Grace was caught in two felony lies to the U.S. Environmental Protection Agency.

In response to criticism of these lapses, *NEJM* editor Jerome P. Kassirer insisted that his journal's conflict-of-interest policy was "the tightest in the business."¹⁰ The sad fact is that this boast is probably correct. In 1996, Sheldon Krimsky of Tufts University did a study of journal disclosures that dug into the industry connections of the authors of 789 scientific papers published by 1,105 researchers in 14 leading life science and biomedical journals. In 34 percent of the papers, at least one of the chief authors had an identifiable financial interest connected to the research, and Krimsky observed that the estimate of 34 percent was probably lower than the true level of financial conflict of interest, since he was unable to check if the researchers owned stock or had received consulting fees from the companies involved in commercial applications of their research. None of these financial interests were disclosed in the journals, where readers could see them.¹¹ In 1999, a larger study by Krimsky examined 62,000 articles published in 210 different scientific journals and found only one half of one percent of the articles included information about the authors' research-related financial ties. Although all of the journals had a formal requirement for disclosure of conflicts of interest, 142 of the journals had not published a single disclosure during 1997, the year under study.¹²

Corporate-sponsored scientific symposiums provide another means for manipulating the content of medical journals. In 1992, the *New England Journal of Medicine* published a survey of 625 such symposiums which found that 42 percent of them were sponsored by a single pharmaceutical sponsor. There was a correlation, moreover, between single-company sponsorship and practices which commercialize

⁶Robert Bell, *Impure Science: Fraud, Compromise and Political Influence in Scientific Research* (New York, NY: John Wiley & Sons, Inc., 1992), pp. 190–219.

⁷Brooke T. Mossman and J. Bernard L. Gee, "Asbestos-related Diseases," *New England Journal of Medicine*, Vol. 320, no. 26 (June 29, 1989), pp. 1721–1730. For a detailed critique of this incident, see Paul Brodeur and Bill Ravanese, "Old Tricks," *The Networker* (newsletter of the Science and Environmental Health Network), June 1998.

⁸For *NEJM*'s response to the controversy over this incident, see Marcia Angell and Jerome P. Kassirer, "Editorials and Conflicts of Interest," *New England Journal of Medicine*, No. 335 (1996), pp. 1055–1056. For the researchers' side, see JoAnn E. Mason, "Adventures in Scientific Discourse," *Epidemiology*, Vol. 8, no. 3 (May 1997).

⁹Jerry H. Berke, "Living Downstream" (book review), *New England Journal of Medicine*, No. 337 (1997), p. 1562.

¹⁰"Medical Journal Apologizes for Ethics Blunder," *Washington Post*, December 28, 1997.

¹¹Sheldon Krimsky et al., "Scientific Journals and Their Authors' Financial Interests: A Pilot Study," *Psychother Psychosom*, Vol. 67, nos. 4–5 (July–October 1998), pp. 194–201.

¹²Reported in Ralph T. King, "Medical Journals Rarely Disclose Researchers' Ties, Drawing Ire," *Wall Street Journal*, February 2, 1999. See also Sheldon Krimsky, "Will Disclosure of Financial Interests Brighten the Image of Entrepreneurial Science?" (Abstract A-29), in *1999 AAAS Annual Meeting and Science Innovation Exposition: Challenges for a New Century*, C.J. Boyd, ed., American Association for the Advancement of Science.

or corrupt the scientific review process, including symposiums with misleading titles designed to promote a specific brand-name product. "Industry-sponsored symposia are promotional in nature and . . . journals often abandon the peer-review process when they publish symposiums," the survey concluded.¹³

Does Money Matter?

As these examples illustrate, many of the factors that bias scientific results are considerably more subtle than outright bribery or fraud. Scientists can be naive about politics, PR and other external factors shaping their work, and may become indignant at the suggestion that their results are shaped by their funding. But science does not occur in a vacuum. In studying animal populations, biologists use the term "selection pressure" to describe the influence that environmental conditions exert upon the survival of certain genetic traits over others. Within the population of scientists, a similar type of selection pressure occurs as industry and government support, combined with the vicissitudes of political fashion, determine which careers flourish and which languish.

The most dramatic trend influencing the direction of science during the past century has been its increasing dependence on funding from government and industry. Unlike the "gentleman scientists" of the nineteenth century who enjoyed financial independence that allowed them to explore their personal scientific interests with considerable freedom, today's scientists are engaged in expensive research that requires the support of sponsors with deep pockets. A number of factors have contributed to this change, from the rise of big government to the militarization of scientific research to the emergence of transnational corporations as important patrons of research.

The last quarter of the twentieth century in particular has seen increasing commercialization of science, as the rise of the so-called "knowledge-based" industries—computers, telecommunications and biotechnology—prompted a wide variety of corporate research initiatives. In 1970, Federal Government funding for research and development totaled \$14.9 billion, compared to \$10.4 billion from industry. By 1997, government expenditures were \$62.7 billion compared to \$133.3 billion from industry. After adjusting for inflation, government spending had barely risen, while business spending more than tripled.¹⁴ Much of this increase, moreover, took place through corporate partnerships with universities and other academic institutions, blurring the traditional line between private and public research. Between 1981 and 1995, the proportion of U.S. industry-produced articles that were coauthored with at least one academic researcher roughly doubled, from 21.6 percent to 40.8 percent. The increase was even more dramatic in the field of biomedical research, where the number of coauthored articles quadrupled.¹⁵ According to the Association of American Medical Colleges, corporate sponsorship of university medical research has grown from about 5 percent in the early 1980s to as much as 25 percent in some places today.¹⁶

Corporate funding has transformed scientific and engineering knowledge into commodities in the new "information economy," giving rise to an elaborate web of interlocking directorates between corporate and academic boardrooms and an endless variety of university-industry partnerships and "technology transfers," from business-funded research parks to fee-for-service work such as drug trials carried out on university campuses.

"More and more we see the career trajectories of scholars, especially of scientists, rise and fall not in relation to their intellectually-judged peer standing, but rather in relation to their skill at selling themselves to those, especially in the biomedical field, who have large sums of money to spend on a well-marketed promise of commercial viability," observed Martin Michaelson, an attorney who has represented Harvard University and a variety of other leading institutions of higher education. "It is a kind of gold rush," Michaelson said at a 1999 symposium sponsored by the American Association for the Advancement of Science. "More and more we see incentives to hoard, not disseminate, new knowledge; to suppress, not publish, research results; to titillate prospective buyers, rather than to make full disclosure to academic colleagues. And we see today, more than ever before, new science first—

¹³ Lisa A. Bero, Alison Galbraith and Drummond Rennie, "The Publication of Sponsored Symposia in Medical Journals," *New England Journal of Medicine*, Vol. 327, no. 16 (October 15, 1992), pp. 1135–1140.

¹⁴ "U.S. Expenditures for Research and Development by Source of Funds and Performer," *Wall Street Journal Almanac 1999* (New York, NY: Ballantine Books, 1998), p. 363.

¹⁵ "Industry Trends in Research Support and Links to Public Research," National Science Board, 1998, <<http://www.nsf.gov/pubs/1998/nsb9899/nsb9899.htm>>, (July 25, 2000).

¹⁶ Melissa B. Robinson, "Medical School Faculty Say Budget Cuts Are Hurting Teaching," Associated Press, May 19, 1999.

generally, very carefully, and thinly—described in the fine print of initial public offerings and SEC filings, rather than in the traditional, fuller loci of academic communication.”¹⁷

Industry-academic entanglements can take many forms, some of which are not directly related to funding for specific research. Increasingly, scientists are being asked to sit on the board of directors of for-profit companies, a service which requires relatively little time but can pay very well—often in excess of \$50,000 per year. Other private-sector perks may include gifts to researchers of lab equipment or cash, or generous payment for speeches, travel and consulting. The benefits that come with these sorts of arrangements are self-evident. The downside, however, is that corporate funding creates a culture of secrecy that can be chilling to free academic inquiry. Businesses frequently require scientists to keep “proprietary information” under wraps so that competitors can’t horn in on their trade secrets.

In 1994 and 1995, researchers led by David Blumenthal at the Massachusetts General Hospital surveyed more than 3,000 academic researchers involved in the life sciences and found that 64 percent of their respondents reported having some sort of financial relationship with industry. They also found that scientists with industry relationships were more likely to delay or withhold publication of their data. Their study, published by the *Journal of the American Medical Association*, found that during the three years prior to the survey, 20 percent of researchers reported delaying publication of their research results for more than six months. The reasons cited for delaying publication included the desire to patent applications from their discovery and a desire by some researchers to “slow the dissemination of undesired results.” The practice of withholding publication or refusing to share data with other scientists was particularly common among biotechnology researchers.¹⁸

“It used to be that if you published you could ask about results, reagents—now you have these confidentiality agreements,” said Nobel Prize-winning biochemist Paul Berg, a professor of biochemistry at Stanford University. “Sometimes if you accept a grant from a company, you have to include a proviso that you won’t distribute anything except with its okay. It has a negative impact on science.”

The problem of secrecy in science is particularly troubling when it involves conflicts of interest between a company’s marketing objectives and the public’s right to know. When research results are not to a sponsor’s liking, the company may use heavy-handed tactics to suppress them—even if doing so comes at the expense of public health and the common good.

One such case came to light in 1997 regarding the work of Betty Dong, a researcher at the University of California. In the late 1980s, the Boots Pharmaceutical company took an interest in Dong’s work after she published a limited study which suggested that Synthroid, a thyroid medication manufactured by Boots, was superior to drugs produced by the company’s competitors. Boots offered \$250,000 to finance a large-scale study that would confirm these preliminary findings. To the company’s dismay, however, the larger study, which Dong completed in 1990, contradicted her earlier findings and showed that Synthroid was no more effective than the cheaper drugs made by Boots’s competitors. What followed was a seven-year battle to discredit Dong and prevent publication of her work. The contract which Dong and her university had signed with the company gave it exclusive access to the prepublished results of the study as well as final approval over whether it would ever be published. The study sat on the shelf for five years while Boots waged a campaign to discredit Dong and the study, bombarding the chancellor and other university officials with allegations of unethical conduct and quibbles over the study’s method, even though the company itself had previously approved the method. In 1994, Dong submitted a paper based on her work to the *Journal of the American Medical Association*. It was accepted for publication and already set in type when the company invoked its veto right, forcing her to withdraw it.¹⁹

In 1995, Boots was purchased by Knoll Pharmaceutical, which continued to suppress Dong’s conclusions. While she remained unable to publish her own results, Knoll published a reinterpretation of her data under the authorship of Gilbert Mayor, a doctor employed by the company. Mayor published his reanalysis of Dong’s data without acknowledging her or her research associates, a practice that *JAMA* would later characterize as publishing “results hijacked from those who did the

¹⁷Remarks by Martin Michaelson, delivered at AAAS symposium on Secrecy in Science, MIT, Cambridge, MA, March 29, 1999 <<http://www.aaas.org/spp/secrecy/Presents/michael.htm>>, (July 25, 2000).

¹⁸David Blumenthal and others, “Withholding Research Results in Academic Life Science,” *Journal of the American Medical Association*, Vol. 277, no. 15 (April 16, 1997).

¹⁹Drummond Rennie, “Thyroid Storm” (editorial), *Journal of the American Medical Association*, Vol. 277, no. 15 (April 16, 1997), p. 1242.

work.”²⁰ After further legal battles and an exposé of Knoll’s heavy-handed tactics in the *Wall Street Journal*, Dong was finally allowed to publish her own version of the study in the *Journal of the American Medical Association* in 1997—nearly seven years after its completion. During those seven years, Boots/Knoll had used Synthroid’s claims of superiority to dominate the \$600-million-per-year synthetic thyroid market. The publication of her work in *JAMA* prompted a class-action lawsuit on the part of Synthroid users who had been effectively duped into paying an estimated \$365 million per year more than they needed for their medication. Knoll settled the lawsuit out of court for \$98 million—a fraction of the extra profits it had made during the years it spent suppressing Dong’s study.²¹

Another attempt to suppress research occurred in 1995, when liver specialist Nancy Olivieri at the University of Toronto wanted to warn patients about the toxic side effects of a drug she was testing. The Canadian drug giant Apotex, which was sponsoring the study in hopes of marketing the drug, told her to keep quiet, citing a nondisclosure agreement that she had signed. When Olivieri alerted her patients anyway and published her concerns in the *New England Journal of Medicine*, Apotex threatened her with legal action and she was fired from her hospital, a recipient of hundreds of thousands of dollars each year in research funding from Apotex.

In 1997, David Kern, an occupational health expert at Brown University, discovered eight cases of a new, deadly lung disease among workers at a Microfibres, Inc., a manufacturer of finely-cut nylon flock based in Pawtucket, Rhode Island. Microfibres tried to suppress Kern’s finding, citing a confidentiality agreement that he had signed at the time of an educational visit to the company more than a year before the start of his research. When Kern spoke out anyway, administrators at the hospital and university where he worked (a recipient of charitable contributions from Microfibres) insisted that he withdraw a previously submitted scientific communiqué about the disease outbreak and that he cease providing medical care to his patients who worked at the company. Kern’s program—the state’s only occupational health center—was subsequently closed, and his job was eliminated.²² Even more disturbing was the response of many of his research colleagues. “There were courageous folks who stood up for me, but most looked the other way,” he said. “I’m mightily discouraged by the failure of the community to do more.”²³

Beyond the problem of outright fraud and suppression, moreover, there is a larger and more pervasive problem: the systemwide bias that industry funding creates among researchers in commercially profitable fields. “Virtually every academic in biotechnology is involved in exploiting it commercially,” observed Orville Chapman of the University of California at Los Angeles. “We’ve lost our credentials as unbiased on such subjects as cloning or the modification of living things, and we seem singularly reluctant to think it through.”²⁴

A host of techniques exist for manipulating research protocols to produce studies whose conclusions fit their sponsor’s predetermined interests. These techniques include adjusting the time of a study (so that toxic effects do not have time to emerge), subtle manipulations of target and control groups or dosage levels, and subjective interpretations of complex data. Often such methods stop short of outright fraud, but lead to predictable results. “Usually associations that sponsor research have a fairly good idea what the outcome will be, or they won’t fund it,” says Joseph Hotchkiss of Cornell University. When researchers have examined the link between funding sources and research outcomes, they have found a striking pattern of correspondence:

- In 1994, researchers in Boston studied the relationship between funding and reported drug performance in published trials of anti-inflammatory drugs used in the treatment of arthritis. They reviewed 56 drug trials and found that in every single case, the manufacturer-associated drug was reported as being equal or superior in efficacy and toxicity to the comparison drug. “These claims of superiority, especially in regard to side effects, are often not supported by the trial data,” they added. “These data raise concerns about selec-

²⁰ Ibid.

²¹ Shenk, pp. 11–12.

²² Robert Lee Hotz, “Secrecy Is Often the Price of Medical Research Funding,” *Los Angeles Times*, May 18, 1999, p. A-1.

²³ Richard A. Knox, “Disclosure Fight May Push Doctor Out of Occupational Health Field,” *Boston Globe*, May 22, 1999, p. B5.

²⁴ “Special Report: What Happens when Universities Become Businesses?” (Research Corporation Annual Report, 1997), p. 9.

tive publication or biased interpretation of results in manufacturer-associated trials.”²⁵

- In 1996, researchers Mildred K. Cho and Lisa A. Bero compared studies of new drug therapies and found that 98 percent of the studies funded by a drug’s maker reached favorable conclusions about its safety and efficacy, compared to 76 percent of studies funded by independent sources.²⁶
- In 1998, the *New England Journal of Medicine* published a study which examined the relationship between drug-industry funding and research conclusions about calcium-channel blockers, a class of drugs used to treat high blood pressure. There are safety concerns about the use of calcium-channel blockers because of research showing that they present a higher risk of heart attacks than other older and cheaper forms of blood pressure medication such as diuretics and beta-blockers. The *NEJM* study examined 70 articles on channel blockers and classified them into three categories: favorable, neutral and critical. It found that 96 percent of the authors of favorable articles had financial ties to manufacturers of calcium-channel blockers, compared with 60 percent of the neutral authors and 37 percent of the critical authors. Only two of the 70 articles disclosed the authors’ corporate ties.²⁷
- In October 1999, researchers at Northwestern University in Chicago studied the relationship between funding sources and conclusions reached by studies of new cancer drugs and found that studies sponsored by drug companies were nearly eight times less likely to report unfavorable conclusions than studies paid for by nonprofit organizations.²⁸

Drug research is not the only field in which this pattern can be detected. In 1996, journalists Dan Fagin and Marianne Lavelle reviewed recent studies published in major scientific journals regarding the safety of four chemicals: the herbicides alachlor and atrazine, formaldehyde, and perchloroethylene, the carcinogenic solvent used for dry cleaning clothes. When nonindustry scientists did the studies, 60 percent returned results *unfavorable* to the chemicals involved, whereas industry-funding scientists came back with *favorable* results 74 percent of the time. Fagin and Lavelle observed a particularly strong biasing influence with respect to agribusiness financing for research related to farm weed control. “Weed scientists—a close-knit fraternity of researchers in industry, academia, and government—like to call themselves ‘nozzleheads’ or ‘spray and pray guys,’” they stated. “As the nicknames suggest, their focus is usually much narrower than weeds. As many of its leading practitioners admit, weed science almost always means herbicide science, and herbicide science almost always means herbicide-justification science. Using their clout as the most important source of research dollars, chemical companies have skillfully wielded weed scientists to ward off the EPA, organic farmers, and others who want to wean American farmers away from their dependence on atrazine, alachlor, and other chemical weedkillers.”²⁹

Solutions

Recognizing the problem of funding-driven bias, leading medical journals recently announced the adoption of a uniform policy that reserves the right to refuse to publish drug company-sponsored studies unless the researchers involved are guaranteed scientific independence. Hopefully, this announcement from the *New England Journal of Medicine*, the *Lancet*, the *Annals of Internal Medicine* and the *Journal of the American Medical Association* will serve as a signal for other journals to adopt similar policies.

In addition, however, researchers and medical journals should adopt stricter standards of disclosure regarding funding itself. Some researchers bridle at this expectation. When asked who funds their research, they may argue that this question

²⁵ P.A. Rochon, J.H. Gurwitz, R.W. Simms, P.R. Fortin, D.T. Felson, K.L. Minaker, et al, “A Study of Manufacturer-Supported Trials of Nonsteroidal Anti-inflammatory Drugs in the Treatment of Arthritis,” *Archives of Internal Medicine*, Vol. 154, no. 2 (January 24, 1994), pp. 157–163.

²⁶ Mildred K. Cho and Lisa A. Bero, “The Quality of Drug Studies Published in Symposium Proceedings,” *Annals of Internal Medicine*, Vol. 124, no. 5 (3/1/96), pp. 485–489.

²⁷ Henry Thomas Stelfox and others, “Conflict of Interest in the Debate over Calcium-Channel Antagonists,” *New England Journal of Medicine*, Vol. 338, No. 2 (January 8, 1998), pgs. 101–106.

²⁸ M. Friedberg, B. Saffran, T.J. Stinson, W. Nelson and C.L. Bennett, “Evaluation of Conflict of Interest in Economic Analyses of New Drugs Used in Oncology,” *Journal of the American Medical Association*, Vol. 282, no. 15 (October 20, 1999), pp. 1453–1457.

²⁹ Dan Fagin and Marianne Lavelle, *Toxic Deception* (Secaucus, NJ: Birch Lane Press, 1996), pp. 51–52.

is irrelevant or that merely asking the question casts aspersions on their integrity. Individual integrity, however, is not the real issue. There is nothing inherently wrong with research sponsored by companies with a vested interest in its outcome. Nevertheless, neither researchers nor the sponsors of their research can be expected to be completely objective or to recognize their own bias if it exists. Funding does not necessarily *create* bias, but it selects bias and is a leading *indicator* of bias. For this reason alone, a researcher's funding and other possible financial conflicts of interest are important information which should be published as routinely as study methodologies and statistical confidence levels. Funding itself may not taint a researcher's integrity, but lack of candor about funding should be regarded as an ethical breach, and both researchers and scientific journals should work to foster a culture of expectations in which full and frank disclosure of such ties becomes the norm rather than the exception.

Finally, it is important to maintain an "information commons"—a space for research funded by nonprofit organizations, universities and governmental bodies. Research by these institutions may carry its own political agendas, but it is an important alternative and counterweight to proprietary, profit-driven research.

BIOGRAPHY FOR SHELDON RAMPTON

Since 1994 Sheldon Rampton has been the Research Director for the Center for Media and Democracy, a non-profit organization based in Madison, Wisconsin. Individuals and other non-profit organizations fund the Center; it does not accept government, corporate or labor union grants. Rampton has authored numerous articles, commentaries and books on the subject of this testimony including *Trust Us We're Experts: How Industry Manipulates Science and Gambles With Your Future* and *Toxic Sludge Is Good For You: Lies, Damn Lies and the Public Relations Industry*. He was born and raised in Nevada, graduated from Princeton University, and works in Madison, Wisconsin.

Chairman MILLER. Thank you. I find that my southern upbringing and the difficulty of interrupting people for fear would seem like bad manners coming into conflict with my role as Chairman, and that upbringing was not even overcome by three years in law school. But if you could try to keep generally within the five minutes. We are not going to be real, real harsh about that time limit. It would be helpful to all of us.

Dr. McCarthy.

STATEMENT OF DR. JAMES J. MCCARTHY, ALEXANDER AGASSIZ PROFESSOR OF BIOLOGICAL OCEANOGRAPHY, HARVARD UNIVERSITY; BOARD MEMBER, UNION OF CONCERNED SCIENTISTS

Dr. MCCARTHY. Mr. Chairman and Members of the Committee, thank you for holding this hearing and giving me the opportunity to testify today about efforts to distort the science of climate change.

As you pointed out, I am the Alexander Agassiz Professor of Biological Oceanography at Harvard. I am the President-Elect of the American Association for the Advancement of Science, and I am a board member of the Union of Concerned Scientists. I also co-chaired Working Group II of the Inter-Governmental Panel and Climate Change, IPCC, for the Third Assessment, which reported out in 2001.

I will begin today by describing the robust and consistent scientific understanding of climate change and the threat it poses. I will then summarize two recent reports of the Union of Concerned Scientists to show how the Bush Administration, political appointees, and a network of Exxon-funded, ExxonMobil funded organizations have sought to distort, manipulate, and suppress climate science so as to confuse the American public about the urgency of the global warming problem, and thus, forestall a strong policy response. I will close by providing recommendations to protect the integrity of science and the free flow of scientific information and to insure strong policies that will provide a healthy climate for our children.

Over the past 25 years a broad consensus on the science of climate change has emerged. In June, 2005, the Academies of Science in each of the G8 nations plus India, China, and Brazil, issued a joint statement which said that, "The scientific understanding of climate change is now sufficiently clear to justify nations taking prompt action." In the United States the American Geophysical Union, the American Meteorological Society, and the American Association for the Advancement of Science have all made similar statements about the urgency of the climate threat. And last month

as Chairman Gordon pointed out, the IPCC released a report which concludes that the planet is unequivocally warming and that the warming we are seeing is due primarily to human activities such as the burning of fossil fuels and the clearing of forests. And as Chairman Gordon pointed out, the United States and over 100 other nations endorsed this conclusion.

How is it then that the non-scientific organizations and a few individuals are able to cast such doubt on the common statement of the world's leading scientific academies and the IPCC? A recent report by the Union of Concerned Scientists provides an explanation. *Smoke, Mirrors, and Hot Air* documents how ExxonMobil has adopted the tobacco industry's disinformation tactics as well as some of the same organizations and personnel to cloud the scientific understanding of climate change and to delay action.

ExxonMobil has funneled nearly \$16 million between 1998, and 2005, to a network of 43 advocacy organizations that seek to confuse the public on global warming science. Virtually all of these groups consist of an overlapping collection of individuals serving as staff, board members, and scientific advisors to public and republic the works of a small group of climate change contrurians.

Finally, the report reveals ExxonMobil's influence over Government policy, including successfully urging the Bush Administration to back away from the U.S. commitment to the Kyoto Protocol and successfully lobbying the White House to withdraw its support for the re-nomination of Robert Watson, an internationally respected U.S. scientist to a second term as Chairman of the IPCC. Political interference at the highest levels is harming federal science and is threatening the health and safety of Americans. Our recent report on interference in the work of federal climate scientists, atmosphere of pressure, found that some of our nation's highest-quality climate science is being suppressed. One hundred and fifty federal climate scientists, three out of five respondents personally experienced at least one incident of political interference over the past five years. That number should be zero. Tarek Maassarani will speak more about some of these findings in his statement.

Chairman Miller and Chairman Gordon, I am sure I speak for all scientists when I thank you for the initiative that you have taken with your letter to 11 federal agencies regarding their science media practices.

Recommendations. Congress should take action to prevent the worst effects of global warming, ignore the disinformation campaign funded by ExxonMobil, and take steps to protect federal climate scientists from political interference. There are several concrete steps that need to restore scientific integrity.

I congratulate the House of Representatives for the passage of legislation extending whistleblower protections to scientists, and we hope that the Senate will follow your lead. The constitutional right of federal scientists to speak freely must be guaranteed. Scientists should not be subject to undue restrictions on media contacts, and finally, all Americans must be guaranteed access to the scientific basis for the agency decisions that affect their health and safety and are paid for with their tax dollars.

In conclusion, Congress needs to recognize ExxonMobil's disinformation campaign for what it is. I urge Members of Con-

gress to draw the scientific information needed to formulate wise climate policy from bona fide scientific organizations and member scientists who publish in the scientific literature and to assiduously avoid being influenced by the protestations of small but vocal advocacy groups funded by ExxonMobil for the express purpose of casting doubt on a robust body of climate science.

Thank you.

[The prepared statement of Dr. McCarthy follows:]

PREPARED STATEMENT OF JAMES J. MCCARTHY

Mr. Chairman and Members of the Committee, thank you for holding this hearing, and for giving me the opportunity to testify today about efforts to distort the science of climate change. My name is James McCarthy, and I am Alexander Agassiz Professor of Biological Oceanography at Harvard University. From 1986 to 1993, I served as Chair of the International Committee that establishes research priorities and oversees implementation of the International Geosphere—Biosphere Program. From 1997 to 2001, I co-chaired Working Group II of the Intergovernmental Panel on Climate Change (IPCC), which had responsibilities for assessing impacts of and vulnerabilities to global climate change for the Third IPCC Assessment. I am President-Elect of the American Association for the Advancement of Science, and member of the Board of Union of Concerned Scientists.

It is now clear that for a number of years, both Bush Administration political appointees and a network of organizations funded by the world's largest private energy company, ExxonMobil, have sought to distort, manipulate and suppress climate science, so as to confuse the American public about the reality and urgency of the global warming problem, and thus forestall a strong policy response.

Unfortunately, these efforts have misled many individuals, including elected officials, to believe that the human influences on climate change are either negligible or of little consequence. The science, however, leaves no doubt that human induced climate change is of enormous potential consequence, and clearly one of the most urgent issues of our times. It is also increasingly clear that we only have a narrow window of time—a decade or less—within which to initiate serious action if we are to avoid the highly negative impacts of global warming that are otherwise projected for this century.

In my testimony, I will begin by describing the process by which scientists have reached a robust and consistent position on our understanding of climate change and the threats it poses. I will then summarize two recent reports by the Union of Concerned Scientists. The first, *"Smoke, Mirrors, and Hot Air,"* details how ExxonMobil manufactured uncertainty on climate change, and the second, *"Atmosphere of Pressure,"* describes how federal climate science has been systematically manipulated and suppressed. I will close by providing recommendations for Congress, the administration and ExxonMobil to protect the integrity of science and the free flow of scientific information and to ensure strong public policies that will provide a healthy climate for our children and grandchildren.

The Role of Science in Addressing Global Warming

First, let me outline where the scientific understanding of climate change and the threat it poses now stands. Science is an evolving body of knowledge, which is always open to challenge and new ideas. But there is a process by which this occurs, one that gives these challenges and new ideas credibility and legitimacy. This is through publication in peer reviewed scientific journals.

Novel findings do not always readily attain widespread acceptance in the scientific community. For example, the most important contribution to Earth sciences in the last four decades may be the discovery of seafloor-spreading and plate tectonics. And yet, some distinguished Earth scientists went to their graves unconvinced of the evidence.

Sometimes new findings, seemingly credible in the initial publication, are eventually proven wrong. The process of science is to continue to question and challenge both new and well-established findings. No scientist would ever discourage this skepticism.

The understanding of how changes in the atmospheric concentrations of greenhouse gases can affect Earth's temperature dates to the late 1800's. But due to the complex dynamics of climate, it took time for scientists to understand the linkages between chemical cycles involving land, ocean and atmospheric processes, and to ascertain clear trends in climate and in greenhouse gas concentrations. Was the Earth

warming or cooling? Could the amount of heat-trapping gases produced by humans really be large enough to affect change? These and many other sensible questions were a common motivator of scientific studies in the last century. It was not until the latter half of the 20th century that key pieces of the relationship between increases in concentrations of heat-trapping gases and climate came into clear view.

For the past 25 years, many national academies of science have reviewed the body of climate science and have spoken consistently regarding the observed changes in Earth's climate and the evidence that human activities are the primary source of heat-trapping emissions responsible for global warming.

In June, 2005, the academies of science in each of the G-8 nations plus India, China, and Brazil issued a joint statement summarizing the science relating to anthropogenic climate change, which declared:

“. . .there is now strong evidence that significant global warming is occurring. . . . It is likely that most of the warming in recent decades can be attributed to human activities. . . . This warming has already led to changes in Earth's climate. . . . The scientific understanding of climate change is now sufficiently clear to justify nations taking prompt action. It is vital that all nations identify cost-effective steps that they can take now, to contribute to substantial and long-term reduction in net global greenhouse gas emissions.”

Within the United States most climate scientists are members of one or more of the following professional organizations which publish scientific journals and hold regular meetings for scientists to present their latest findings: the American Geophysical Union (41,000 members), the American Meteorology Society (AMS) (11,000 members), and the American Association for the Advancement of Science (120,000 individual and institutional members). These preeminent scientific societies have all made similar statements about recent climate change. Here, for example is the statement of the AMS:

“Despite uncertainties, there is adequate evidence from observations and interpretations of climate simulations to conclude that the atmosphere, ocean, and land surface are warming; that humans have significantly contributed to this change; and that further climate change will continue to have important impacts on human societies, on economies, on ecosystems and on wildlife through the 21st century and beyond.”

And, just last month, the authoritative Intergovernmental Panel on Climate Change (IPCC) released a report which concludes that the planet is unequivocally warming—their word, *unequivocal*—and that the warming we're seeing is due primarily to the coal, oil and natural gas we burn to power our homes, businesses and transportation.

Despite this strong scientific understanding, media coverage and political debate on global warming science often give undue credence to the views of little known organizations and statements by individuals purporting to be experts on climate science.

A medical analogy comes to mind. Official position statements of the National Academies Institute of Medicine, the American Medical Association, the American Heart Association, and the American Cancer Society state that medical evidence strongly links cigarette smoking to lung and heart disease. Would any of us who are not experts in this field of medical science feel qualified challenging the views of these august bodies?

How is it then, that non-scientific organizations and a few individuals are able to cast doubt on the common statement of the world's leading scientific academies, the IPCC, and on more than a century of scientific discovery regarding climate science? A recent report by the Union of Concerned Scientists (UCS) provides an explanation.

ExxonMobil's Disinformation Campaign¹

In January 2007, UCS released “*Smoke, Mirrors and Hot Air: How ExxonMobil Uses Big Tobacco Tactics to Manufacture Uncertainty on Climate Science*.” The report documents how ExxonMobil, the world's largest energy company, has for years underwritten a sophisticated disinformation campaign whose aim has been to deceive the public and policy-makers about the reality of global warming. The campaign bears striking similarities to the tobacco industry's decades-long effort to mislead the public about the scientific evidence linking smoking to lung cancer and heart disease. In fact, some of the same organizations and individuals involved in

¹References available in the full report, available at www.ucsusa.org/news/press_release/ExxonMobil-GlobalWarming-tobacco.html

the tobacco industry effort are also part of the ExxonMobil's disinformation campaign.

Like the tobacco industry in previous decades, ExxonMobil has:

- Raised doubts about even the most indisputable scientific evidence;
- Funded an array of front organizations to create the appearance of a broad platform for a tight-knit group of vocal climate change contrarians who misrepresent peer-reviewed scientific findings;
- Attempted to portray its opposition to action as a positive quest for "sound science" rather than business self-interest; and,
- Used its access to the Bush Administration to block federal policies and shape government communications on global warming.

ExxonMobil Contributions to Climate Contrarian Groups

Specifically, the UCS report shows that between 1998 and 2005, ExxonMobil funneled close to \$16 million to a network of 43 ideological and advocacy groups that seek to manufacture uncertainty about the strong scientific consensus on global warming. These groups promote spokespeople who misrepresent peer-reviewed scientific findings or cherry-pick facts in an attempt to mislead the media and public into thinking there is vigorous debate in the mainstream scientific community about climate change. Among the ExxonMobil-funded groups are established conservative and anti-regulation think tanks and organizations such as the American Enterprise Institute. There are also a myriad of smaller, lesser known groups, including the Heartland Institute (\$560,000), the Annapolis Center for Science Based Public Policy (\$763,500), and Frontiers of Freedom (\$1,000,200).

There are two disturbing themes about the groups funded by ExxonMobil. First, virtually all of the 43 organizations publish and publicize the work of a nearly identical small group of spokespeople who work to misrepresent climate science and confuse the public's understanding of global warming. Most of these organizations also include these same individuals as board members or scientific advisers. Second, ExxonMobil has often been the major underwriter of these groups' climate change-related activities.

There are many examples of what I've described in the UCS report. Solid state physicist Frederick Seitz, for instance, is the emeritus chair of the ExxonMobil funded Marshall Institute and is also affiliated with at least four other groups receiving funding from ExxonMobil. Patrick Michaels and Fred Singer, both prolific climate change skeptics, each have ties to no fewer than 11 organizations funded by ExxonMobil.

In terms of the organizations themselves, one of the most striking features to emerge from the data is the fact that ExxonMobil is often the major underwriter of these groups' climate change-related efforts. A good example is a Washington, DC.-based group called the Committee for a Constructive Tomorrow. This organization has, since 1998, received nearly a half a million dollars from ExxonMobil. The company's 2004 grant to this organization made up approximately a quarter of the group's total expenses for that year.

Another notable example is the Competitive Enterprise Institute which has, to date, received more than \$2 million in ExxonMobil funding.

All these figures and many more like them are documented in the report and its appendices. Part of UCS's goal was to provide a comprehensive reference of people, organizations, and funding data on this topic, and with close to 300 footnotes, the report provides plenty of source material for people to look into the story more deeply for themselves.

ExxonMobil Links to Big Tobacco

In addition to providing this information, though, the report also details links in strategy and personnel between ExxonMobil's efforts and those of the tobacco industry. It includes the text, for instance, of a seminal 1998 memo that ExxonMobil helped draft as part of a small group called the Global Climate Science Team that set much of the company's strategy in motion. As the report shows, this internal memo didn't just mimic the tobacco industry's strategy, it even drew upon key personnel who had implemented it.

For instance, Randy Randol, ExxonMobil's senior environmental lobbyist at the time, was a member of this Global Climate Science Team. Notably, so was Steve Milloy, who headed a tobacco front organization. As we now know from internal documents made public by court order, the tobacco firm Philip Morris actually hired a PR firm to create this group—called the Advancement of Sound Science Coalition—in 1993 to mislead the public about the dangers of second-hand smoke. In an

effort to disguise its identity as a tobacco industry front group, TASSC also fostered support for a host of other anti-regulatory efforts on issues ranging from asbestos to radon.

Milloy is one of several veterans of the tobacco industry's disinformation campaign who this report shows are involved in ExxonMobil's similar, ongoing efforts on global warming. As recently as 2004, ExxonMobil has continued to fund Milloy's efforts. He currently runs two organizations out of his Maryland home—the resuscitated Advancement of Sound Science Center and something called the Free Enterprise Education Institute. ExxonMobil's close connection with some of the very same personnel who helped engineer the tobacco industry's blatant and shameful disinformation campaign speaks for itself.

ExxonMobil's Political Influence

The UCS report shows that ExxonMobil's influence over government policy may surpass that of the tobacco industry it emulates. The report documents that during the 2000–2006 election cycles, ExxonMobil's PAC and individuals affiliated with the company gave more than \$4 million to federal candidates and parties. Shortly after President Bush took office, ExxonMobil began to wield its influence. In 2001, ExxonMobil participated in Vice President Cheney's "Energy Task Force," which recommended a continued reliance on fossil fuels.

ExxonMobil also successfully urged the Bush Administration to back away from the U.S. Commitment to the Kyoto Protocol. Notes from a 2001 talk by State Department official Paula Dobriansky confirm the role ExxonMobil played in persuading the Administration to abandon the international agreement. Another 2001 memo from ExxonMobil urged the Administration to hire Harlan Watson, a vocal opponent of climate action, as the lead negotiator for the U.S. on international climate policy. Since then H. Watson has steadfastly opposed any U.S. engagement in the Kyoto process.

Other documents reveal that in February 2001, following the release of an authoritative report by the Intergovernmental Panel on Climate Change (IPCC), ExxonMobil successfully lobbied the White House to withdraw its support for re-nomination of Robert Watson to a second term as Chairman of the IPCC. R. Watson, an internationally respected scientist, has served as the Director of the Science Division at NASA and was at the time a chief scientist at the World Bank.

In one of the most striking examples of ExxonMobil's influence, the administration hired Philip Cooney to serve as the Chief of Staff in the White House Council of Environmental Quality (CEQ) from 2001–2005. Before joining the Administration, Cooney had spent a decade as a lawyer for the American Petroleum Institute, the oil industry lobby that worked with ExxonMobil to develop its disinformation campaign. In that capacity, Cooney sought to prevent the U.S. from entering into any kind of international agreement or enacting any domestic legislation that might lead to mandatory limits on global warming emissions.

Cooney, a lawyer with an undergraduate degree in economics, had no scientific credentials that might qualify him to rewrite the findings of top government scientists. Nonetheless, during his tenure at CEQ, he spent a significant amount of time censoring and distorting government reports so as to exaggerate scientific uncertainty about global warming. One particularly damning incident involved Cooney's efforts to sabotage the Administration's own May 2002 "U.S. Climate Action Report," which concluded that climate change posed a significant risk and was caused by human-made emissions. The report drew on the findings of the "U.S. National Assessment of the Potential Consequences of Climate Variability and Change," an earlier government report that predated the Bush Administration.

E-mail correspondence obtained through a Freedom of Information Act request shows that Cooney contacted Myron Ebell at the ExxonMobil-funded Competitive Enterprise Institute for help in undermining the Administration's own report. Ebell advised the Administration to distance itself from the report. Shortly after, President Bush did exactly that, denigrating the report as having been "put out by the bureaucracy." CEI then filed the second of two lawsuits calling for the Bush Administration to withdraw the National Assessment, on which the report in question was based.

Cooney's inappropriate activities came to light when Rick Piltz, a whistle-blowing researcher at the U.S. Government's interagency Climate Change Science Program, resigned in protest over Cooney's censorship practices and other Bush Administration abuses of climate science. Two days after the *New York Times* first reported on Piltz's revelations, Cooney resigned. It was not surprising when, one week after he left the White house, Cooney accepted a high-ranking public relations position at ExxonMobil.

The Bottom Line on ExxonMobil

In an effort reminiscent of the tobacco industry, ExxonMobil has helped create an echo chamber that serves to amplify the views of a carefully selected group of spokespeople whose work has been largely discredited by the scientific community. Hopefully, as the connections documented in this report become known, lawmakers, media, and the public will become more attuned to the relationships that many of the most vocal critics of climate change science and their organizations have to a corporation that has repeatedly refused to acknowledge the science and respond to the concerns so succinctly summarized in the joint statement of the 11 Academies and the recent IPCC report.

Protecting Federal Climate Scientists from Political Interference

Federal climate science research is at the forefront of assessing fundamental causes of global warming and the future dangers it could pose to our nation and the world. Such research is of tremendous value to many Americans planning for these risks, including coastal communities designing infrastructure for protecting against storm surges; civil authorities planning for heat waves; power companies preparing for higher peak energy demands; forest managers planning wildfire management programs; farmers adjusting to changing precipitation patterns; and policymakers evaluating energy legislation. Therefore, it is crucial that the best available science on climate change be disseminated to the public, through government websites, reports, and press releases. In recent years, however, this science has been increasingly tailored to reflect political goals rather than scientific fact.

Out of concern that inappropriate political interference and media favoritism are compromising federal climate science, the Union of Concerned Scientists (UCS) and the Government Accountability Project (GAP) undertook independent investigations of federal climate science. UCS mailed a questionnaire to more than 1,600 climate scientists at seven federal agencies to gauge the extent to which politics was playing a role in scientists' research. Surveys were also sent to scientists at the independent (non-federal) National Center for Atmospheric Research (NCAR) to serve as a comparison with the experience of federal scientists. About 19 percent of all scientists responded (279 from federal agencies and 29 from NCAR). At the same time, GAP conducted 40 in-depth interviews with federal climate scientists and other officials and analyzed thousands of pages of government documents, obtained through the Freedom of Information Act (FOIA) and inside sources, regarding agency media policies and congressional communications.

These two complementary investigations arrived at similar conclusions regarding the state of federal climate research and the need for strong policies to protect the integrity of science and the free flow of scientific information. Together, they formed the basis for "*Atmosphere of Pressure*," a joint report by the Union of Concerned Scientists and the Government Accountability Project.

Findings of the Report: "Atmosphere of Pressure"

Political Interference with Climate Science: The Federal Government needs accurate scientific information to craft effective policies. Political interference with the work of federal scientists threatens the quality and integrity of these policies. As such, no scientist should ever encounter any of the various types of political interference described in our survey questions. Yet unacceptably large numbers of federal climate scientists personally experienced instances of interference over the past five years:

- 57 scientists (21 percent of all respondents to the question) personally experienced pressure to eliminate the words "climate change," "global warming," or other similar terms from a variety of communications.
- 41 scientists (15 percent) personally experienced changes or edits during review that changed the meaning of scientific findings.
- 47 scientists (18 percent) personally experienced statements by officials at their agencies that misrepresented scientists' findings.
- 60 scientists (22 percent) personally experienced the disappearance or unusual delay of websites, reports, or other science-based materials relating to climate.
- 97 scientists (36 percent) personally experienced new or unusual administrative requirements that impair climate-related work.
- 17 scientists (six percent) personally experienced situations in which scientists have actively objected to, resigned from, or removed themselves from a project because of pressure to change scientific findings.

- In all, 150 scientists (58 percent) said they had *personally experienced* at least one incident of some form of interference within the past five years, for a total of *at least* 435 incidents of political interference.

The more frequently a climate scientist's work touches on sensitive or controversial issues, the more interference he or she reported. More than three-quarters (78 percent) of those survey respondents who self-reported that their research "always" or "frequently" touches on issues that could be considered sensitive or controversial also reported they had personally experienced at least one incident of inappropriate interference. More than one-quarter (27 percent) of this same group had experienced six or more such incidents in the past five years.

In contrast to this evidence of widespread interference in climate science at federal agencies, scientists at the independent National Center for Atmospheric Research (NCAR), who are not federal employees, reported far fewer instances of interference. Only 22 percent of all NCAR respondents had personally experienced such incidents over the past five years. Of course, this is still unacceptable; no scientist should be subjected to such political interference.

Barriers to Communication: Federal scientists have a constitutional right to speak about their scientific research, and the American public has a right to be informed of the findings of taxpayer-supported research. Restrictions on scientists who report findings contrary to an administration's preferred policies undermine these basic rights. These practices also contribute to a general misunderstanding of the findings of climate science and degrade our government's ability to make effective policies on topics ranging from public health to agriculture to disaster preparation.

The investigation uncovered numerous examples of public affairs officers at federal agencies taking a highly active role in regulating communications between agency scientists and the media—in effect serving as gatekeepers for scientific information.

Among the examples taken from interviews and FOIA documents:

- One agency scientist, whose research illustrates a possible connection between hurricanes and global warming, was repeatedly barred from speaking to the media. Press inquiries on the subject were routed to another scientist whose views more closely matched official administration policy.
- Government scientists routinely encounter difficulty in obtaining approval for official press releases that highlight research into the causes and consequences of global warming.
- Media policies at federal agencies went beyond notifying public affairs officers of upcoming interviews or recapping the content of past interviews. In some cases requests to speak with the media were only granted under the condition that a public affairs officer be physically present at the interview. This practice of having their statements monitored may have made some scientists feel less comfortable speaking freely.
- Both scientists and journalists report that restrictive media policies and practices have had the effect of slowing down the process by which interview requests are approved. As a result, the number of contacts between government scientists and the news media has been greatly reduced.

Highly publicized incidents of interference have led at least one agency to implement reforms; in February 2006, NASA adopted a scientific openness policy that affirms the right of open scientific communication. Perhaps as a result, 61 percent of NASA survey respondents said recent policies affirming scientific openness at their agency have improved the environment for climate research. While imperfect, the new NASA media policy stands as a model for the type of action other federal agencies should take in reforming their media policies.

The investigation also highlighted problems with the process by which scientific findings are communicated to policy-makers in Congress. One example, taken from internal documents provided to GAP by agency staff, shows edits to official questions for the record by political appointees, which change the meaning of the scientific findings being presented.

Inadequate Funding: When adjusted for inflation, funding for federal climate science research has declined since the mid-1990s. A majority of survey respondents disagreed that the government has done a good job funding climate science, and a large number of scientists warned that inadequate levels of funding are harming the capacity of researchers to make progress in understanding the causes and effects of climate change. Budget cuts that have forced the cancellation of crucial Earth observation satellite programs were of particular concern to respondents.

Poor Morale: Morale among federal climate scientists is generally poor. The UCS survey results suggest a correlation between the deterioration in morale and the po-

liticized environment surrounding federal climate science in the present administration. One primary danger of low morale and decreased funding is that federal agencies may have more difficulty attracting and keeping the best scientists.

A large number of respondents reported decreasing job satisfaction and a worsening environment for climate science in federal agencies:

- Two-thirds of respondents said that today's environment for Federal Government climate research is worse compared with five years ago (67 percent) and 10 years ago (64 percent). Among scientists at NASA, these numbers were higher (79 percent and 77 percent, respectively).
- 45 percent said that their personal job satisfaction has decreased over the past few years. At NASA, three in five (61 percent) reported decreased job satisfaction.
- 36 percent of respondents from NASA, and 22 percent of all respondents, reported that morale in their office was "poor" or "extremely poor." Among NCAR respondents, only seven percent reported such low levels of morale.

Recommendations

Congress should take action to prevent the worst effects of global warming, ignore the disinformation campaign funded by ExxonMobil, and take steps to protect federal climate scientists from political interference. Let me address each of these areas.

Congressional Action on Global Warming

The true signal that ExxonMobil's disinformation campaign has been defeated and federal climate scientists have regained a real voice will come when Congress passes policies that meaningfully address the threat of global warming. Most importantly, Congress should pass science based legislation that gradually reduces global warming emissions to 80 percent below 1990 levels by 2050. In addition, Congress should enact policies that spur the development of solution technologies and make compliance with the economy-wide reductions more affordable. These should include:

- Increased fuel economy standards for passenger vehicles;
- A Renewable Electricity Standard requiring utilities to obtain 20 percent of electricity from renewable energy sources by 2020;
- A shift in government energy support and incentives away from conventional coal, oil, and gas toward clean, renewable energy sources; and,
- Integration of low carbon fuels into the supply chain by ensuring that more gas stations sell biofuels such as E85 and flexible fuel vehicles comprise a greater percentage of the vehicle fleet.

Ending ExxonMobil's Disinformation Campaign

The UCS "*Smoke, Mirrors, and Hot Air*" report, which was covered in more than 300 media outlets, came on the heels of other criticism of ExxonMobil's disinformation campaign. In September 2006, the Royal Society, Britain's premier scientific academy, sent a letter to ExxonMobil urging the company to stop funding the dozens of groups spreading disinformation on global warming and also strongly criticized the company's "inaccurate and misleading" public statements on global warming. On October 27, 2006, Senators Olympia Snowe (R-ME) and John D. Rockefeller (D-WV) sent a letter to ExxonMobil urging the company to stop funding climate contrarian groups. All three of these documents have led to public outrage about the company's cynical campaign to delay climate action.

In response to public pressure, ExxonMobil recently launched a public relations campaign aimed at softening its image as a climate skeptic. Although the company recently acknowledges the global warming threat, and has announced that it has cut off funding for some of the groups involved in the disinformation campaign, including the Competitive Enterprise Institute, it has not yet pledged a complete halt to its bankrolling of the scores of skeptic groups that disseminate misleading information on global warming. In a letter responding to Senators Snowe and Rockefeller, ExxonMobil claimed to have no control over the activities of the groups it supports. If that's true, ExxonMobil can certainly choose to stop funding any group that disseminates misinformation and establish clear standards for groups that receive funding in the future.

Even if ExxonMobil ceases to fund its disinformation campaign, much of what it funded in the past will continue to have influence, and to the degree it does, our nation will take longer to enact the needed policies described above. Such delay would be costly in harm done to natural and human socioeconomic systems that are

sensitive to the negative impacts of business-as-usual projections for future climate. Therefore, I urge Members of Congress to draw the scientific information needed to formulate wise policy responses to impending climate change from bona fide scientific organizations and member scientists who publish in the scientific literature, and to assiduously avoid being influenced by the protestations of small but vocal groups and individuals funded by ExxonMobil and other corporations and special interests for the express purpose of casting doubt on a robust body of climate science.

Protecting Federal Climate Scientists

The UCS-GAP “Atmosphere of Pressure” report brought to light numerous ways in which U.S. federal climate science has been filtered, suppressed, and manipulated in the last five years. Until this political interference ends, the United States will not be able to fully protect Americans and the world from the dangers of a warming planet. Creating systems to ensure long-term independent and accessible science will require the energies of the entire Federal Government. I recommend the following reforms and actions:

- Congress must act to specifically protect the rights of federal scientists to conduct their work and communicate their findings without interference and protect scientists who speak out when they see interference or suppression of science.
- The Federal Government must respect the constitutional right of scientists to speak about any subject, including policy-related matters and those outside their area of expertise, so long as the scientists make it clear that they do so in their private capacity, and such communications do not unreasonably take from agency time and resources. Scientists should also be made aware of these rights and ensure they are exercised at their agencies.
- Ultimate decisions about the communication of federal scientific information should lie with scientists themselves. While non-scientists may be helpful with various aspects of writing and communication, scientists must have a “right of last review” on agency communications related to their scientific research to ensure scientific accuracy has been maintained.
- Pre-approval of media interviews with federal scientists by public affairs officials should be eliminated. Scientists should not be subject to restrictions on media contacts beyond a policy of informing public affairs officials in advance of an interview and summarizing the interaction for them afterwards. Coordinating media requests with the public affairs office is reasonable, but the practice of public affairs officers being present at an interview, either physically or by phone, can have a chilling effect on the free flow of scientific information and should not serve as a prerequisite for the approval of an interview. The UCS report provides a Model Media Policy that can be used as an example for federal agencies who wish to reform their policies and practices regarding scientific freedom and openness.
- Federal agencies should clearly support the free exchange of scientific information in all venues. They should investigate and correct inappropriate policies, practices, and incidents that threaten scientific integrity, determine how and why problems have occurred, and make the necessary reforms to prevent further incidents.
- Funding decisions regarding climate change programs should be guided by scientific criteria, and must take into account the importance of long-term, continual climate observation programs and models. All branches of the government must have access to independent scientific advice.

Conclusion

The actions of ExxonMobil-funded groups and federal political appointees to distort, manipulate, and suppress climate science have helped postpone meaningful U.S. action to protect future generations from the worst consequences of global warming. The Federal Government must commit to ensuring basic scientific freedoms and supporting scientists in their endeavors to bring scientific results to the policy arena, scientific fora, and the American people.

Attachment A

The six pages that comprise this attachment are excerpted from the UCS report "Smoke, Mirrors, and Hot Air". To view the full report and obtain citations, visit:
http://www.ucsusa.org/global_warming/science/exxonmobil-smoke-mirrors-hot.html

Smoke, Mirrors, and Hot Air | 31

Appendix B

GROUPS AND INDIVIDUALS ASSOCIATED WITH EXXONMOBIL'S DISINFORMATION CAMPAIGN

Table 1 Select ExxonMobil-Funded Organizations Providing Disinformation on Global Warming¹⁷⁴

Organization	Total ExxonMobil Funding ¹⁷⁵ (1998-2005)	Illustrative Information
Africa Fighting Malaria	\$30,000	AFM received \$30,000 donation in 2004 for "climate change outreach." This grant represents 10% of their total expenses for that year. AFM's website has an extensive collection of articles and commentary that argue against urgent action on climate change. ¹⁷⁶
American Council for Capital Formation, Center for Policy Research	\$1,604,523	One-third of the total ExxonMobil grants to ACCF-CPR between 1998 and 2005 were specifically designated for climate change activities. ExxonMobil funds represent approximately 36% of their total expenses in 2005. ¹⁷⁷
American Council on Science and Health	\$125,000	ExxonMobil donated \$15,000 to ACSH in 2004 for "climate change issues." A September 2005 Better Business Bureau Wise Giving Alliance Charity Report concludes that the ACSH does not meet all the standards for charity accountability. ¹⁷⁸
American Enterprise Institute	\$1,625,000	Lee R. Raymond, retired chair and CEO of ExxonMobil, is vice chairman of AEI's Board of Trustees. ¹⁷⁹
American Friends of the Institute of Economic Affairs	\$50,000	American Friends of the IEA received a \$50,000 ExxonMobil donation in 2004 for "climate change issues." This grant represents 29% of their total expenses for that year. The 2004 IEA study, <i>Climate Alarmism Reconsidered</i> , "demonstrates how the balance of evidence supports a benign, enhanced greenhouse effect." ¹⁸⁰
American Legislative Exchange Council	\$1,111,700	Of the total ExxonMobil grants to ALEC, \$327,000 was specifically for climate change projects. ALEC received \$241,500 in 2005 from ExxonMobil.
Annapolis Center for Science-Based Public Policy	\$763,500	In 2002, ExxonMobil funds represented approximately 20% of their total expenses. The Annapolis Center's climate work includes production of materials exaggerating the uncertainty about the human contribution to climate change. Climate contrarians Sallie Baliunas and Richard Lindzen serve as scientific advisors. ¹⁸¹
Arizona State University, Office of Climatology	\$49,500	The Office of Climatology at ASU received an ExxonMobil donation in 2001. Robert C. Balling, Jr., directed the office during this time. ¹⁸² ExxonMobil did not donate to any other offices of climatology between 1998 and 2005.
Atlantic Legal Foundation	\$20,000	The Atlantic Legal Foundation filed an amicus brief on behalf of climate contrarians, Sallie Baliunas, David Legates, and Patrick Michaels, in support of the EPA's decision against the regulation of carbon dioxide emissions as a pollutant. ¹⁸³ The ALF received several ExxonMobil donations between 1998 and 2005.
Atlas Economic Research Foundation	\$680,000	Atlas Economic Research Foundation received \$65,000 in 1998 for a "global climate conference and other support." In 2003, ExxonMobil funds represented approximately 6% of their total expenses for that year.
Cato Institute	\$105,000	In 2002, ExxonMobil funds represented approximately 0.2% of the total expenses.
Center for the Defense of Free Enterprise	\$230,000	From 2003 to 2005, ExxonMobil funds represent a significant percentage of the total expenses (2003: 61%, 2004: 143%, 2005: 95%). The largest grant (\$130,000 in 2004) was specified by ExxonMobil for "global climate change issues."
Centre for the New Europe	\$170,000	ExxonMobil gave \$120,000 between 2004 and 2005 to support the centre's climate change activities.
Center for the Study of Carbon Dioxide and Global Change	\$80,000	In 2003, ExxonMobil funds represented approximately 14% of total expenses.
Citizens for a Sound Economy Educational Foundation (became FreedomWorks)	\$380,250	CSE received \$275,250 from ExxonMobil in 2001, an increase from \$30,000 the year before. CSE merged with Empower America and became FreedomWorks in 2004. ¹⁸⁴ FreedomWorks maintains that the science of climate change is "far from settled" and cites scientists such as Sallie Baliunas. ¹⁸⁵

Table 1 Select ExxonMobil-Funded Organizations Providing Disinformation on Global Warming¹⁷⁴
continued

Organization	Total ExxonMobil Funding ¹⁷⁵ (1998-2005)	Illustrative Information
Committee for a Constructive Tomorrow	\$472,000	Approximately 23% of the total ExxonMobil funding for the CGT was directed by ExxonMobil for climate change activities. The 2004 ExxonMobil grant represented approximately a quarter of their total expenses for that year.
Competitive Enterprise Institute	\$2,005,000	Of the organizations analyzed, CEI received 1.2 times more money from ExxonMobil since 1998 than the second most-funded organization, AEI. In FY 2003, ExxonMobil grants represented approximately 16% of CEI's total expenses.
Congress of Racial Equality (CORE)	\$235,000	In 2004, ExxonMobil donated \$135,000 for climate change activities. This organization is not required to file an annual return with the IRS because its income is reportedly less than \$25,000 annually. ¹⁷⁶
Consumer Alert, Inc.	\$70,000	In 2004, the ExxonMobil grants for climate change "opinion leader and public education efforts" and climate change "outreach to opinion leaders" represented approximately 14% of their total expenses for that year.
Federalist Society for Law & Public Policy Studies	\$80,000	S. Fred Singer is a featured expert for the Federalist Society, which received funding from ExxonMobil every year from 2000 to 2005.
Foundation for Research on Economics and the Environment	\$210,000	FREE's federal judicial seminars in Montana, which were reported in a May 2006 Washington Post article as funded by ExxonMobil and other corporations, have been criticized for facilitating special interest lobbying. ¹⁷⁷ In 2004, ExxonMobil donated \$20,000 for a "climate seminar."
Fraser Institute	\$120,000	All of the funds ExxonMobil donated to the Fraser Institute between 1998 and 2005 were for climate change work.
Free Enterprise Action Institute	\$130,000	The Free Enterprise Action Institute is registered under Steven Milloy's name and home address. In 2005, ExxonMobil funds represented approximately 64% of total expenses. Tax filings from 2004 and 2005 reported no staff.
Frontiers of Freedom Institute	\$1,002,000	A May 2003 New York Times article reported that the \$232,000 ExxonMobil donation in 2002 (up from \$40,000 the year before) represented approximately one-third of FFI's annual budget. Almost half of their total ExxonMobil donations since 1998 were specifically designated by ExxonMobil for climate change projects. ¹⁷⁸
George C. Marshall Institute	\$630,000	The George C. Marshall Institute has received a steady stream of funding from ExxonMobil for its climate science program: \$405,000 between 2001 and 2004. In 2004, ExxonMobil funds represented approximately 21% of total expenses. The Marshall Institute in turn donated \$12,602 to the Tech Central Science Foundation (Tech Central Station) in 2004. ¹⁷⁹
Heartland Institute	\$561,500	Nearly 40% of the total funds that the Heartland Institute has received from ExxonMobil since 1998 were specifically designated for climate change projects. ExxonMobil donated \$119,000 in 2005, its biggest gift to Heartland since 1998.
Heritage Foundation	\$460,000	ExxonMobil gave \$25,000 in 2002 for "climate change issues."
Hoover Institution on War, Revolution, and Peace, Stanford University	\$295,000	ExxonMobil donated \$30,000 in 2003 for "global climate change projects." Climate contrarians Sallie Krawcheck and S. Fred Singer were Wesson Fellows for the Hoover Institute, a public policy research center. ¹⁸⁰
Independent Institute	\$70,000	Climate contrarians S. Fred Singer, David Legates, and Frederick Seitz are all research fellows at the Independent Institute, which has received money from ExxonMobil from at least 1998 to 2005.
Institute for Energy Research	\$177,000	The Institute received \$48,000 in 2004 for "climate change and energy policy issues" from ExxonMobil. In 2005, ExxonMobil funds represented approximately 31% of total expenses.
International Policy Network	\$295,000	The International Policy Network's largest grant from ExxonMobil since 1998, \$115,000 in 2004, was specifically designated for "climate change" activities. This grant represented 16% of their total expenses for that year.
Lindenwood University	\$10,000	In 2004, ExxonMobil donated \$5,000 for "climate change outreach." Lectures published on the university's Institute for Study of Economics and the Environment, for example, question the human contribution to global warming. ¹⁸¹
Media Research Center	\$150,000	\$100,000 of the total funds the Media Research Center received from ExxonMobil between 1998 and 2005 were specifically designated for climate change activities.

Table 1 **Select ExxonMobil-Funded Organizations Providing Disinformation on Global Warming**¹⁷⁴
continued

Organization	Total ExxonMobil Funding ¹⁷⁵ (1999-2009)	Illustrative Information
Mercatus Center, George Mason University	\$80,000	ExxonMobil funded \$40,000 in 2004 to support the Mercatus Center's work on climate change regulation.
National Association of Neighborhoods	\$100,000	In 2004, an ExxonMobil grant for work on climate change issues represented approximately 6% of total expenses.
National Center for Policy Analysis	\$420,000	The NCPA received funding from ExxonMobil every year from 2000 to 2005. NCPA climate work includes, for example, a paper authored by climate contrarian David Legates that argued the arctic polar bear population was not threatened by global warming. ¹⁷⁶ The NCPA also cites the work of Robert Balling, Jr., John Christy, and other climate contrarians.
National Center for Public Policy Research	\$280,000	In 2003, ExxonMobil gave the center \$30,000 to fund the EnviroTruth website (www.enviortruth.org), which purportedly provides information on the "truths and falsehoods" of a variety of environmental issues, including climate change. ¹⁷⁷
National Environmental Policy Institute	\$75,000	Steven Milloy is the former director of the NEPI. ¹⁷⁸ ExxonMobil funds in 2000 represented 3% of their total expenses that year. The activities of NEPI's Global Climate Science Project included a Congressional roundtable and white paper referencing several climate contrarians. ¹⁷⁹
Pacific Research Institute for Public Policy	\$355,000	PIR's largest donation from ExxonMobil since 1999 is \$100,000 in 2004 (up from \$45,000 for each of the two previous years). ExxonMobil allocated half of this grant for "climate change and environmental quality research."
Science and Environmental Policy Project	\$20,000	SEPP was founded by climate contrarian S. Fred Singer. ¹⁸⁰ ExxonMobil donated \$10,000 in 2000 for project support.
The Advancement of Sound Science Center, Inc.	\$50,000	ExxonMobil funds represented approximately 65% of total expenses in FY 2002.
Tech Central Station	\$95,000	The DCI Group ran TCS until TCS was sold in September 2006. ¹⁸¹ The DCI Group is a registered ExxonMobil lobbying firm. ¹⁸²
Weidenbaum Center, Washington University (formerly Center for the Study of American Business)	\$345,000	Murray Weidenbaum, honorary chair, has written about the "great uncertainty" of the human contribution to global warming. ¹⁸³ The center received \$10,000 from ExxonMobil in 1998 for "Global Climate Change and other support" and published papers by climate contrarians Patrick Michaels (1999) and S. Frederick Singer (1999).

TOTAL: \$15,837,873

Table 2 Scientific Spokespeople Affiliated with ExxonMobil-Funded Groups

Name	Affiliation With ExxonMobil-Funded Organizations	Title/Role
Rafie Balunas	Annapolis Center for Science Based Public Policy	Science and Economic Advisory Council Member ⁽¹⁾
	Committee for a Constructive Tomorrow	Academic and Scientific Advisory Board Member ⁽²⁾
	Competitive Enterprise Institute	Report Author ⁽³⁾
	George C. Marshall Institute	Senior Scientist ⁽⁴⁾ and Chair of Science Advisory Board ⁽⁵⁾
	Global Climate Coalition	Featured Scientist ⁽⁶⁾
	Heartland Institute	Writer/contributor ⁽⁷⁾
	Heritage Foundation	Writer/contributor ⁽⁸⁾
	Hoover Institution on War, Revolution and Peace	Robert Wesson Endowment Fund Fellow (1993-4) ⁽⁹⁾
Robert C. Baling, Jr.	Tech Central Station	Science Round Table Member ⁽¹⁰⁾
	Cato Institute	Book Author ⁽¹¹⁾
	Committee for a Constructive Tomorrow	Academic and Scientific Advisory Board Member ⁽¹²⁾
	Heritage Foundation	Policy Expert ⁽¹³⁾
	International Policy Network	Writer/contributor ⁽¹⁴⁾
John Christy	Tech Central Station	Science Roundtable Member ⁽¹⁵⁾
	Competitive Enterprise Institute	Report and Article Authors ⁽¹⁶⁾
Hugh Ellisasser	Independent Institute	Report Author ⁽¹⁷⁾
	Committee for a Constructive Tomorrow	Academic and Scientific Advisory Board Member ⁽¹⁸⁾
Sherwood B. Idso	Consumer Alert	Advisory Council Member ⁽¹⁹⁾
	Center for the Study of Carbon Dioxide and Global Change	President ⁽²⁰⁾
	Committee for a Constructive Tomorrow	Academic and Scientific Advisory Board Member ⁽²¹⁾
David R. Legates	George C. Marshall Institute	Report Author ⁽²²⁾
	Competitive Enterprise Institute	Former Adjunct Scholar ⁽²³⁾
	George C. Marshall Institute	Report Author ⁽²⁴⁾
	Heartland Institute	Featured Author ⁽²⁵⁾
	Independent Institute	Research Fellow ⁽²⁶⁾
	National Center for Policy Analysis	Adjunct Scholar and E-mail Expert ⁽²⁷⁾
Richard Lindzen	Tech Central Station	Science Roundtable Member ⁽²⁸⁾
	Annapolis Center for Science Based Public Policy	Science and Economic Advisory Council Member ⁽²⁹⁾
	Cato Institute	Contributing Expert ⁽³⁰⁾
	George C. Marshall Institute	Report Author ⁽³¹⁾

Table 2 Scientific Spokespeople Affiliated with ExxonMobil-Funded Groups continued

Name	Affiliation With ExxonMobil-Funded Organizations	Title/Role
Patrick J. Michaels	American Council on Science and Health	Scientific Advisor ¹¹
	American Legislative Exchange Council	Report Author ¹²
	Cato Institute	Senior Fellow in Environmental Studies ¹³
	Committee for a Constructive Tomorrow	Academic and Scientific Advisory Board Member ¹⁴
	Competitive Enterprise Institute	CEI expert ¹⁵
	Consumer Alert	Advisory Council Member ¹⁶
	George C. Marshall Institute	Book Editor and Contributor ¹⁷
	Heartland Institute	Writer/contributor ¹⁸
	Heritage Foundation	Policy Expert ¹⁹
	Tech Central Station	Science Roundtable member ²⁰
	Wedenbaum Center	Study Author ²¹
Fredrick Seitz	Atlantic Legal Foundation	Director Emeritus ²²
	Committee for a Constructive Tomorrow	Academic and Scientific Advisory Board Member ²³
	George C. Marshall Institute	Chairman Emeritus and Member of the Board of Directors ²⁴
	Independent Institute	Research Fellow ²⁵
	Science and Environmental Policy Project	Chairman of the Board of Directors ²⁶
S. Fred Singer	American Council on Science and Health	Scientific Advisor ²⁷
	Cato Institute	Writer/contributor ²⁸
	Centre for the New Europe	Featured Expert ²⁹
	Federalist Society for Law and Public Policy Studies	Featured Expert ³⁰
	Frontiers of Freedom	Adjunct Fellow ³¹
	Heritage Foundation	Senior Fellow ³²
	Hoover Institution on War, Revolution and Peace	Robert Wesson Endowment Fund Fellow and Featured Author ³³
	Independent Institute	Research Fellow ³⁴
	National Center for Policy Analysis	Adjunct Scholar ³⁵ and E-team Expert ³⁶
	Science and Environmental Policy Project	President ³⁷
	Wedenbaum Center	Study Author ³⁸
Willie Soon	Fraser Institute	Featured Expert ³⁹
	Frontiers of Freedom	Chief Scientific Researcher for the Organization's Center for Science and Public Policy ⁴⁰
	George C. Marshall Institute	Senior Scientist ⁴¹
	Heartland Institute	Writer/contributor ⁴²
	Tech Central Station	Science Roundtable member ⁴³

Table 3 Key Personnel Overlap between Tobacco and Climate Disinformation Campaigns

Person	Tobacco Company Affiliation	Climate Campaign Role*
Doug Goodyear	VP, Walt Klein and Associates, PR firm for R.J. Reynolds tobacco company (RJR) Cofounder, Ramhurst, an ostensibly grassroots organization for "smokers' rights" that received funding from RJR ¹⁴	CEO, DCI Group, a registered ExxonMobil lobbying firm that created Tech Central Station, an on-line journal that publishes articles by climate contrarians. Director, Tech Central Science Foundation, funding arm of Tech Central Station ¹⁵
Timothy N. Hyde	Senior Director of Public Issues, RJR, 1988 to 1997 ¹⁶	Managing Partner, DCI Group
Steven Milloy	Headed The Advancement of Sound Science Coalition (TASSC), a group that the Philip Morris tobacco company covertly created in 1993 to manufacture uncertainty about the health hazards posed by secondhand smoke ¹⁷	Member, Global Climate Science Team (GCST), a group created in part by ExxonMobil that outlined an explicit strategy to invest millions of dollars to manufacture uncertainty on the issue of global warming ¹⁸ Home address listed for the slightly renamed The Advancement of Sound Science Center (TASSC) and the Free Enterprise Action Institute, both funded by ExxonMobil ¹⁹
Frederick Seitz	Employed by RJR to oversee the company's medical research funding, 1979 to 1989 ²⁰	Emeritus chair of the ExxonMobil-funded George C. Marshall Institute ²¹ Wrote and circulated a letter asking scientists to sign a petition calling upon the U.S. government to reject the Kyoto Protocol ²²
Tom Sydnor	Midwestern Field Coordinator, RJR ²³	Chair, DCI Group

* Major climate campaign roles were identified; this is not a comprehensive list.

Attachment B**Selected Excerpts from UCS Climate Survey Essay Responses**

The 40-question survey mailed by UCS to over 1,600 federal climate scientists featured one essay question that allowed scientists to provide a written narrative, and extra space for scientists to leave additional comments. The following are excerpts from the essays provided, divided into five topic areas: political interference in climate science, scientific findings misrepresented, barriers to communication, funding, and climate scientist are disheartened.

“The integrity of the U.S. Federal Government climate science could best be improved by. . .”

I. Political Interference with Climate Science

Large numbers of federal climate scientists reported various types of interference, both subtle and explicit:

National Aeronautics and Space Administration (NASA)

“Remembering that the civil service scientists and engineers can and should be an unbiased reservoir of insights into different questions with impacts across international economic and cultural dividing lines. Politicizing and degrading the integrity for which we are internationally known and respected is a disservice to our country and a danger to the world. If we can’t be trusted, to give insights on global change and funded to do so, who in the world will do it?”

“Keep politics out of science.”

“Administration needs to act on the best information, not try to force the information to fit their desired action.”

National Oceanic and Atmospheric Administration (NOAA)

“Removing the current atmosphere where scientists who report findings truthfully may face consequences if they contradict administration policies.”

“I have never seen or expected this degree of political interference in scientific research. It’s appalling and unbelievable that it happens in the U.S.”

“Eliminating political pressure from influencing science findings.”

“De-politicizing the science, especially at the highest administrative levels of agencies. Protect the integrity of scientists by letting them speak, and by respecting that.”

“Remove political pressures that try to make agencies support the administration’s agenda. Allow scientific agencies to remain nonpolitical. Allow scientific results to be used as scientific facts instead of political or policy statements.”

“Policy of zero interference in the scientific process.”

Environmental Protection Agency (EPA)

“The perception that. . .we (climate scientists) might find and write [something that] might be considered controversial is a strong one that comes down from management. It’s not clear that there’s a real reason for it or what the consequences would be. This perception should be actively discouraged from the highest levels!”

“Keeping politics out of the scientific process. I believe the line has been crossed between science informing public policy and policy manipulating the science (and trying to influence its outcome). I have personally experienced this manipulation in the area of communicating the science many times.”

Department of Energy

“Allowing scientists to work completely independently of current administrative views on the subject.”

“No oversight of scientific quality by politicians. It should be left to peer review and presentations of results in scientific meetings.”

U.S. Geological Survey (USGS)

“A scientific report will now undergo three ‘policy’ reviews and two ‘peer’ reviews prior to further peer-review journal reviews. This will not only slow the reporting of results, but the chances are that significant watering-down of results will occur during the three ‘policy’ reviews by non-specialists.”

National Center for Atmospheric Research (NCAR)

“Keeping political employee appointments completely independent of the scientific research, scientific publication, and scientific communications processes.”

II. Scientific Findings Misrepresented

Federal climate scientists reported that their research findings have been changed by non-scientists in ways that compromise accuracy:

National Oceanic and Atmospheric Administration (NOAA)

“Not censoring scientific results.”

“U.S. Federal Government climate science does not lack integrity. Science assessments, summaries, policy papers sometimes do lack integrity. The best way to improve them would be to ensure they are written by qualified scientists, not by political hacks.”

Department of Agriculture (USDA)

“It’s not the climate science per se, but how it is spun and censored by officials.”

“Hands off by policy/communications and non-scientific staff on scientific reports. These reports should be subject to scientific and independent peer review.”

Department of Energy

“Not having political appointees who have no formal training in climate science looking over our shoulders. There should be some minimum bar before they are appointed. Policy should be based on sound science; results of science should not be diluted or suited/adjusted to justify policy. This particular Administration has gone beyond reasonable boundaries, on this issue.”

National Center for Atmospheric Research

“The unedited presentation of findings to government panels and to the public. It appears that funding organizations are shifting priorities away from climate studies to other programs deemed more important by the current administration.”

III. Barriers to Communication

Agency scientists are not free to communicate their research findings to the media or the public:

National Aeronautics and Space Administration (NASA)

“As of March 2006, there was a marked change in NASA, and I have spoken out freely on climate change, including a NASA-approved press release. I believe scientists at other agencies (e.g., NOAA) still have restrictions.”

“Allow direct and open communication between scientists and the public without prior permission, clearance, chaperones, handlers, etc.”

“Recently a Bush appointee to the position of Public Information Officer attempted to muzzle Jim Hansen, Director of GISS. . . the NASA Administrator made it clear that such political meddling would not be tolerated. This was excellent leadership at the top and set the tone for any lower echelons that may not otherwise have been this strong. Michael Griffin is a great improvement over his recent precedents.”

“Reduced public affairs interference, review, delay, oversight.”

“Not having White House liaisons in science related PR offices.”

National Oceanic and Atmospheric Administration (NOAA)

“Scientists should be free to communicate with the media, rather than having media contacts filtered by “Public Affairs” officers. This should be official policy, not a “wink and nod” policy.”

“Removing all apparatchiks monitoring the controlling how scientists communicate to the public.”

“Allowing us to interact openly with the public.”

“Less restrictions on publications and data output, more universal support, less restrictive travel/visitor policies (our honored guests are treated like criminals to even get in the building).”

Department of Energy

“Not having political appointees tinker with science that is best left to the experts. Particularly at NOAA where the Administration has gagged free exchange of results.”

“More open discussion of issues, honest assessment of data and results. The public does not know who to believe. Separate the “grey” results/literature from solid peer reviewed results and provide “what is known and not known,” not opinions.”

Environmental Protection Agency (EPA)

“Allowing scientists to communicate directly to the public and other scientists about critical significance of climate change. In fact, informing the public regarding the truth of this issue must be encouraged and rewarded.”

National Center for Atmospheric Research

“From what I’ve heard, NCAR is rare among research institutes in that we are free to communicate our findings. This policy needs to apply to all research institutes and all scientists should be encouraged to communicate their results to the public.”

“At one point, I specifically asked my division director if there were any censorship policies at NCAR. He emphatically stated that there were none and that if we were ever pressured that we should contact him immediately and he would raise hell to eliminate the pressure.”

IV. Inadequate Funding

Scientists reported that inadequate funding affects their ability to do the research that is necessary and pertinent.

National Aeronautics and Space Administration (NASA)

“I believe that climate research at NASA is being undermined by the current administration. This is accomplished not through direct threats of intimidation, but through lack of funding. Several years ago the funding focus [at NASA] was switched from Earth Science to solar system exploration (Moon and Mars). I believe this was done not for solar system exploration, but rather to curtail climate research. The emphasis needs to be switched back to Earth Science.”

“Problems with climate research in the Federal Government mainly have to do with funding. Future funding at my agency is uncertain. Future climate observational programs (crucial ones) are threatened because of lack of funds. New accounting rules at my agency require climate scientists to spend unreasonable amounts of time writing proposals, which has reduced productivity.”

“Funding for climate research is a factor of 5–10 below critical mass to develop a designed climate observing system.”

National Oceanic and Atmospheric Administration (NOAA)

“Include a dedicated long-term observing program with stable funding support for about 30 more years. The current satellite program does not meet climate research needs.”

Environmental Protection Agency (EPA)

“I have not worked directly on climate change since funding was eliminated in my area. Other areas of much less importance have been emphasized as a result. Which is a tragedy.”

Department of Agriculture (USDA)

“The U.S. Climate Change Science Program has not received sufficient funding for needed observations, monitoring, research, [and] data systems.”

U.S. Geological Survey (USGS)

“U.S. satellite programs are in severe jeopardy. The loss of continuity in observational satellite data will impair progress in climate science.”

V. Climate Scientists are Disheartened

While a large majority of respondents (88 percent) agreed with the statement, “U.S. Federal Government climate research is of generally excellent quality,” respondents reported decreasing job satisfaction and a worsening environment for climate science in federal agencies:

National Oceanic and Atmospheric Administration (NOAA)

“The intrusion of politics into the field is making some (me and others) consider change of field or career.”

Environmental Protection Agency (EPA)

"I am [close to] retirement and feel that I will no longer be able to use my abilities to produce scientific information of relevance to the American public. The last years of my career are being squandered for political reasons. I do not think I will be able to do any more new climate science before I retire. My goal is to get out the results from past research."

Department of Energy

"To watch this from another agency is so demoralizing. They have virtually derailed the mission of providing environmental services to the public and burnt billions. . . . Shocking tracking record!"

Chairman MILLER. Thank you, Dr. McCarthy. That was admirably close to five minutes.

Mr. Maassarani.

**STATEMENT OF MR. TAREK F. MAASSARANI, STAFF
ATTORNEY, GOVERNMENT ACCOUNTABILITY PROJECT**

Mr. MAASSARANI. Mr. Chairman, Ranking Member, Members of the Subcommittee, I thank you for this opportunity to share the Government Accountability Project investigation into the suppression of scientific communication. The complete findings can be found in the full investigative and synthesis report entitled, Redacting the Science of Climate Change.

This report documents how certain government policies and practices have increasingly restricted the flow of politically-inconvenient scientific information that emerges from taxpayer-funded climate change research. These restrictions have affected the media's ability to report on the science, decision-maker's capacity to respond with appropriate policies, and the public's grasp of an environmental issue with profound consequences for our future.

As lead investigator I conducted more than 40 interviews with climate scientists and government officials representing inside perspectives from numerous agencies. I reviewed thousands of pages of documentation obtained from Freedom of Information Act disclosures, as well as public and internal agency sources. I also examined more than 100 published news articles and Congressional documents.

The investigation identified policies and practices requiring tight control of media communications, which resulted in the delay and denial of media requests and press releases. This considerably reduced scientists' opportunities to communicate the results of their research to the public. In one instance a national oceanic and atmospheric administration scientist complained that the prior rate of one media request every two to three weeks had slowed to one every two to three months as a result of new pre-approval requirements. In another instance a NASA scientist witnessed his press release on climate change edited to minimize its media impact before it was approved. In yet another instance a scientist described how on three separate occasions what he referred to as a minder, flew from Washington, D.C., to Hawaii and Boulder to monitor his interviews. With such editing, denials, delays, and monitoring, some scientists have given up trying to issue press releases or even pursue media contacts.

The restrictions referred to in our report have increased steadily, albeit unevenly over time, often in response to upcoming elections, the publication of controversial studies, hurricane seasons, and

most notably, the landfall of Hurricane Katrina. Furthermore, restrictive policies and practices are characterized by internal inconsistencies and a lack of transparency about where decisions to restrict communications are being made, according to what criteria, and why.

It appears that signals from executive offices such as the Council on Environmental Quality are channeled to political appointees and politically-aligned civil servants at lower-level press and policy offices. These directives largely take place off the record, frequently deviating from the written guidelines, and involving individuals with few scientific qualifications. Whether these restrictive communication policies and practices have caused overt and well-publicized incidents or have acted by more subtle processes, their effect has been to misrepresent and under-represent the scientific knowledge generated by federal climate science agencies.

In some case the policies and practices represent institutionalized constitutional and statutory infringements of federal employees' free speech and whistleblower rights. In most cases they undermine the government's inherent obligation to freely disseminate the results of publicly-funded research.

To address the problems the Government Accountability Project recommends that Congress enact legislation to insure federal free speech rights and extend whistleblower protections. GAP lauds H.R. 985 recently passed by the House and urges it to be expanded to cover all employees conducting federally-funded scientific, technical, or other professional research.

The report also presents an extensive set of recommendations for agencies to insure the integrity of media, Congressional, professional, and public communications. Congress should consider what legislative action is needed to help agencies in this regard.

Finally, GAP asked Congress to strengthen its essential oversight functions with regard to the integrity of communications about scientific research and to insure that objective and independent science is the basis for policy-making.

Thank you.

[The prepared statement of Mr. Maassarani follows:]

PREPARED STATEMENT OF TAREK F. MAASSARANI

Introduction

Mr. Chairman, Ranking Member, Members of the Subcommittee. I thank you for the opportunity to share the findings of my investigative report. Until recently, I served as full-time staff attorney and investigator for the Government Accountability Project, the Nation's leading whistleblower defense and advocacy organization. In February 2006, prompted by the well-publicized concerns of Dr. James Hansen and Rick Piltz, GAP initiated an in-depth investigation to determine the extent of political interference with federal climate research and the dissemination of scientific information.

The investigation found no incidents of direct interference with climate change research. Instead, unduly restrictive policies and practices were found to occur largely in the communication of "sensitive" scientific information to the media, the public, and Congress. The effect of these restrictive communications policies and practices has been to misrepresent and under-represent the taxpayer-funded scientific knowledge generated by federal climate science agencies and programs. The bottom line is, we need the government to be stimulating, not undermining, an informed public debate on important scientific subjects, including climate change. We have included for your consideration a number of recommendations for the Administration and the Congress that would help achieve this goal.

The GAP Investigation

The GAP investigation focused primarily on the effects of restrictive Federal Government policies and practices, especially those applied to control communications from particular employees on “sensitive” aspects of climate science. The investigation also addressed government efforts to control the communication of scientific climate-related information to Congress, the scientific community, and the public. The complete findings have been incorporated into my investigative and synthesis report, *Redacting the Science of Climate Change*.

As lead investigator, I conducted more than 40 interviews with climate scientists, communications officers, agency and program officials, and journalists. These sources—both named and confidential—represented inside perspectives from the National Oceanic and Atmospheric Administration (NOAA), National Aeronautics and Space Administration (NASA), Climate Change Science Program (CCSP), Environmental Protection Agency (EPA), United States Geological Survey, and National Center for Atmospheric Research, as well as local, national, and international media.

In addition to interviews, I have reviewed thousands of pages of documentation obtained from Freedom of Information Act disclosures, as well as public and internal agency sources. I also reviewed more than 100 published news articles and more than three dozen congressional documents including reports, testimonies, and questions for the record.

Overview

A perception of inappropriate political interference is widespread among employees of the federal climate science agencies and programs, as well as among journalists from national, mainstream outlets who cover their research. This perception is substantiated by evidence from inside sources, scientists’ personal testimonies, journalists, and document disclosures.

My report demonstrates how policies and practices have increasingly restricted the flow of scientific information emerging from publicly-funded climate change research. This has affected the media’s ability to report on the science, public officials’ capacity to respond with appropriate policies, and the public’s grasp of an environmental issue with profound consequences for our future.

The investigation found no incidents of direct interference with conducting climate change research. Instead, unduly restrictive policies and practices were found that affected the communication of “sensitive” scientific information to the media, the public, and Congress. In this context, the term “sensitive scientific information” is meant to signify science that is seen as leading to conclusions that call into question existing policy positions or objectives and includes, for example, some of the research dealing with the effects of climate change or greenhouse gases on hurricanes, sea levels, ice sheets, glaciers, marine life, polar bears, the water supply, and human society.

Media Communications

A review of the media policies and agency practices controlling the communication of scientific information at NASA, NOAA, and other agencies, demonstrated the following:

- Agency media policies and practices required scientists to obtain pre-approval from public affairs headquarters following an initial media request before proceeding with an interview. Likewise, press releases and press conferences also required high-level clearance.
- At times, media policies and practices mandated that scientists forward all relevant requests to a press officer who would then route the interview to other scientists or restrict the topics that could be discussed.
- Agency directives asked scientists to provide anticipated media questions and their expected answers prior to the interview.
- Finally, press officers frequently monitored interviews over conference call or in person. In one instance, a press officer flew out on two separate occasions from Washington, DC, to Hawaii, then Boulder, to monitor two interviews with one scientist.

As a result, scientists lost a considerable number of opportunities to communicate the results of their research to the public due to delay or denial of interviews and/or press releases held up during a clearance process. In one instance, a NOAA scientist complained that the prior rate of one media request every two to three weeks had slowed to one every two to three months as a result of new pre-approval requirements. In another instance, a NASA scientist witnessed his press release on

climate change edited to minimize its media impact before it was approved. With such denials, or delays of more than two-weeks, some scientists have given up trying to release them. Others feel discouraged from pursuing media contacts.

The investigation has demonstrated that these restrictive policies and practices have increased steadily, albeit unevenly, over time. In 2001, there were only a few isolated instances of mandatory pre-approval at NOAA, while most labs enjoyed a simple “notice and recap” policy in which only prior notification of public affairs and a subsequent follow-up are required. Similarly, NASA’s policy did not require pre-approval. At NOAA, public affairs offices then implemented clearance requirements following the release of a hurricane season outlook in 2002 and a report by Ocean Commission in 2004. In June 2004, NOAA issued a written media policy that codified a number of these prior practices. Although some NOAA laboratories continued to operate largely by “notice and recap,” pre-approval was required for certain “hot button” issues and scientists, such as one researcher who had recently published his findings from a modeling study of the relationship between hurricanes and climate change. Public affairs required his interviews to be monitored.

In the weeks leading up to the 2004 presidential election, a regional EPA office issued a pre-approval directive and NASA scientists experienced numerous “disappearances” of press releases. In 2005, a year of record-setting global temperatures, politically-appointed senior management at NASA public affairs headquarters implemented an unwritten practice of requiring their special pre-approval for media requests and press releases concerning “warming,” “melting,” or “glaciers.” A mid-level press officer recalls these officials conferring with the White House Office of Science and Technology Policy and pressuring him to suppress the media communications under the pretext of some “excuse.”

At NOAA, a reminder of the media policy was again disseminated to certain agency laboratories at the start of the 2005 hurricane season and then again after the publication of a controversial study linking increased hurricanes activity and climate change. NOAA first widely publicized its media policy throughout its research branches following Hurricane Katrina. At around this time, documents began to reveal that media inquiries were required to obtain clearance from the Department of Commerce and the White House Council on Environmental Quality. Media contacts with a NOAA researcher that disputed a connection between hurricanes and climate change were given preference over those with another researcher whose models suggested a link. NOAA also posted an article on its website claiming an agency-wide consensus against the link.

In early January of 2006, NOAA issued implementation protocols for the 2004 media policy, as well as a press release review process flow sheet. The implementation protocols explicitly require pre-approval for press releases and the drafting of prospective answers to anticipated questions, as well as routing for media requests. The press release flow sheet included the Department of Commerce in its 13-stage review process. In June 2006, an EPA scientist studying sea level rise and coastal erosion was required to route all media requests to his public affairs office.

Public and Congressional Communications

Interference with scientific communications to the public and Congress included inappropriate editing, delay, and suppression of reports and other printed and on-line material. For example, following its 2001 publication, senior officials prohibited all references to the CCSP’s congressionally-mandated *National Assessment of the Potential Consequences of Climate Variability and Change* from websites, discussions, and subsequent assessment reports. The Administration similarly disowned the 2002 *U.S. Climate Action Report*, prepared by the EPA as a requirement of the United Nations Framework Convention on Climate Change.

In September 2002, the Administration removed a section on climate change from the EPA’s annual air pollution report, even though the topic had been discussed in the report in each of the preceding five years. Then in June 2003, the EPA removed an entire chapter on climate change after the White House had tried to so substantially alter its contents that leaving it in would compromise the credibility of the agency.

Similarly for websites, the EPA’s Global Warming website, actively updated prior to 2002, saw little if any activity for nearly four years. At about the same time that the EPA website was revived, the State Department website was altered to hide much of its climate-related materials. Although the Communications Interagency Working Group CCSP is mandated to prepare numerous informational products for the public on climate change research, its website has uploaded only a handful of materials since 2004.

Conclusions

Political interference is top-down. Directives and signals from executive offices such as the Council on Environmental Quality, the Office of Management and Budget, and the Office of Science and Technology Policy are channeled through political appointees and younger politically-aligned career civil servants at lower-level press and policy offices. These channels of communications largely take place off the record, frequently deviating from written policy guidelines and involving individuals with few scientific qualifications. Whereas low-level agency and program support staff are typically sympathetic to the scientists and their science, as one scientist noted, “the closer you get to Washington, the more hostile [they are to the science].” Senior managers have been aware of the perception and incidents of interference longer than they have attempted to address them. Often, they may be conforming to pressures from above to downplay politically-inconvenient science.

The restrictive communications policies and practices discussed here are largely characterized by internal inconsistencies, ambiguity, and a lack of transparency. They send a chilling signal to federal employees, including scientists and public affairs officers, that further freeze the flow of information.

Whether these restrictive communications policies and practices have precipitated overt and, often, well-publicized incidents or have acted by more subtle processes, their effect has been to misrepresent and under-represent the taxpayer-funded scientific knowledge generated by federal climate science agencies and programs. In some cases, the policies and practices constitute systematic, institutionalized constitutional and statutory infringements of the federal climate science employees’ free speech and whistleblower rights. In most cases, the policies and practices undermine the government’s inherent obligation to disseminate the results of publicly-funded research.

Increased congressional and media attention on political suppression and interference with climate science communication has led to statements of commitment to scientific openness by Administration officials and a loosening of communication policies and their application. This pressure has led to actual or anticipated reforms, as well as improved morale, at NASA and NOAA, though institutional problems and policy weaknesses remain (See, e.g., GAP’s memorandum to NASA scientists, enclosed as Attachment 1). Even in rhetoric, the reform movement has largely missed ongoing problems at EPA and CCSP.

Recommendations

GAP recommends that the executive branch and all federal agencies supporting climate change research:

- Implement a clear and transparent “notice and recap” media policy in which only a prior notification to public affairs and a subsequent follow-up are required. Correspondingly, eliminate mandatory pre-approval for media contacts, selective routing of media requests, drafting of anticipated questions and answers by scientists prior to interviews, and monitoring of media communications.
- Develop a transparent communications policy at the Climate Change Science Program (CCSP) and streamline the approval process for CCSP products and communications.
- Reaffirm and educate federal employees about their right to speak on any subject so long as they make clear that they are expressing their personal views and do not use government time and resources—with the important proviso that no restrictions apply when federal employees are exercising their whistleblower rights to disclose unclassified information that is reasonably believed to evidence illegality, gross waste, gross mismanagement, abuse of power, or substantial and specific danger to public health or safety.
- Bring media policies into compliance with the Anti-Gag Statute, the *Whistleblower Protection Act*, the *Lloyd-Lafollette Act* for communications with Congress, and related provisions.
- Ensure the timely and pro-active coordination of press releases and media contacts so as to promote rather than limit the flow of information.
- Ensure that content editing and scientific quality control remain with qualified scientists and the peer-review process.
- Reaffirm and educate federal employees on their right to review any final draft that is to be published under their name or that substantially references their research.

- Establish accountability procedures that increase transparency and provide for internal reporting of undue interference with science.
- Investigate and correct inappropriate policies, practices, and incidents such as those described in this report.

GAP recommends that Congress:

- Enact legislation that extends federal free speech and whistleblower rights to all employees conducting federally-funded scientific, technical, or other professional research, whether the employee is part of the civil service, a contractor, grant recipient, or receives taxpayer support in any other manner.
- Ensure that objective and independent science is the basis for policy-making.
- Strengthen its essential oversight functions with regard to the integrity of communications about scientific research.

MEMORANDUM**To:** Climate Scientists**From:** Government Accountability Project**Re:** Analysis of NASA's Recently Released Media Policy

The Government Accountability Project (GAP) is issuing advisory comments on NASA's new media policy that it released yesterday, March 30. The new policy came in response to public outcry over NASA's suppression of climate science research inconsistent with the Bush Administration's political agenda. NASA is touting the development as a free-speech breakthrough for agency scientists.

GAP identified the areas *in which the new policy is an improvement*:

- NASA Administrator Michael Griffin's reassuring rhetoric is of symbolic value, demonstrating official respect for scientific freedom.
- The new media policy does not cover scientific reports, web postings, or professional dialogue such as at conferences, allowing scientists to share information with their colleagues without going through public affairs political appointees.
- The policy officially recognizes the free speech right for scientists to express their "personal views" when they make clear that their statements are not being made on behalf of NASA.

However, *in six critical areas the new policy falls short of genuine scientific freedom and accountability*, and potentially undermines the positive guarantees:

- While recognizing the existence of a "personal views" exception, the policy doesn't announce the circumstances when that right cancels out conflicting restrictions, which are phrased in absolute terms applying to contexts such as "any activities" with significant media potential. This leaves a cloud of uncertainty that translates into a chilling effect for scientists.
- The policy fails to comply with the legally-mandated requirements of the Anti-Gag Statute to explicitly include notice that the *Whistleblower Protection Act* and *Lloyd-Lafollette Act* (for congressional communications) limit and supersede its restrictions.
- The policy institutionalizes prior restraint censorship through "review and clearance by appropriate officials" for "all NASA employees" involved in "preparing and issuing" public information. This means that scientists can be censored and will need advance permission from the "appropriate" official before anything can be released.
- The policy defies the WPA by requiring prior approval for all whistleblower disclosures that are "Sensitive But Unclassified" (SBU). The legal definition of SBU is broad and vague, to the point that it can be interpreted to sweep in virtually anything. The WPA only permits that restriction for classified documents or those whose public release is specifically banned by statute.
- The policy bans employees' free speech and WPA rights to make anonymous disclosures, requiring them to work with NASA public affairs "prior to releasing information" or "engaging in any activities or events. . . that have the potential to generate significant media or public interest or inquiry."
- The policy gives NASA the power to control the timing of all disclosures, which means scientists can be gagged until the information is dated and the need for the public to know about critical scientific findings has passed.

In December of last year, NASA climatologist Dr. James Hansen was threatened with "dire consequences" by a political appointee for statements he made about the consequences of climate change. According to GAP's legal director, Tom Devine, "Under this so-called reform, Dr. Hansen would still be in danger of 'dire consequences' for sharing his research, although that threat is what sparked the new policy in the first place. The new policy violates the *Whistleblower Protection Act*, the Anti-Gag Statute, and the law protecting communications with Congress, the *Lloyd-Lafollette Act*. The loopholes are not innocent mistakes or oversights. GAP extensively briefed the agency lawyer on these requirements, who insisted he understood them fully. NASA is intentionally defying the good government anti-secrecy laws."

Chairman MILLER. Thank you, Mr. Maassarani. Mr. Kueter.

**STATEMENT OF MR. JEFF KUETER, PRESIDENT, GEORGE C.
MARSHALL INSTITUTE**

Mr. KUETER. Mr. Chairman, Members of the Subcommittee, I appreciate the opportunity to appear before you today. I am Jeff Kueter, President of the George Marshall Institute, a non-profit organization focused on improving the comprehension of important scientific and technical issues by the public, the media, and policy-makers. We study environmental and national security topics, with a particular emphasis on climate change, ballistic missile defense, and space security.

I am here today because of our concern about the character of the climate change debate and efforts to discredit the reputation of people who do not share the view that we face an impending climate crisis. These efforts are inconsistent with the principles of science, sound policy-making, and the advancement of knowledge, as well as our principles of free speech and association. Healthy debate is an engine for progress and change.

Our climate is a complex, chaotic system. We have learned a great deal about how it operates but our knowledge is far from complete. Global temperatures have increased over the past 50 or 100 years, human activities contribute to that warming, and actions to adjust that legitimate risk are appropriate. Nevertheless, the inter-governmental panel on climate change in the National Academy of Sciences document many important gaps in our understanding of critical climate processes and identifies significant gaps in the observational data. The current debate is not over what is scientific fact. It is over interpretations of analyses, the quality of data, professional judgments, and the confidence that can be placed in climate models. That the IPCC for example, reached one conclusion does not make that a fact. Reasonable people can reach different conclusions about the extent of human influence on climate and the range of potential future impacts as the National Academy has done, as well as the range of public policy choices. Discussing these different interpretations is not misleading the public, nor is it providing inaccurate impressions as has been alleged. To charge otherwise is tantamount to saying that the prevailing views should never be challenged. The history of science is replete with examples where the prevailing view was overtaken by new information. Significant uncertainty is not an obstacle to action, it is a signal for caution and flexibility.

In considering the current debate, several other factors deserve recognition. First, all the participants in policy-making have preferences, interests, and objectives that color the interpretation of often-tentative scientific results. Conclusions drawn from incomplete science are more a reflection of individual preferences than the weight of scientific evidence. All participants in the climate debate use the media to frame issues in ways that are favorable to their preferred positions, but the media is criticized for including the views of so-called skeptics and their reporting. The media's role is to inform, not to judge by censoring. Reporters should not be criticized for including diverse views. Instead, critical analyses of all sides should be encouraged. Claims that this confuses rather than informs presumes a certainty of foresight that simply does not exist.

Secondly, alleged political interference is claimed to be unique. Our book, *Politicizing Science*, documents numerous examples of the damaging intersection of science and politics. Further, those who claim the current situation is somehow different should become familiar with the story of Dr. Will Happer, the Marshall Institute's Chairman. Early in the Clinton-Gore Administration Dr. Happer, then head of the Department of Energy's Office of Science, questioned the Vice President's views on climate change and ozone depletion. Despite his scientific credentials, he was summarily dismissed at Gore's request.

Third, in today's debate evidence of a financial tie is often sufficient to condemn without proof that views, opinions, or conclusions were altered in any way. Arguments about funding bias rest on the assumption that funders demand results that are solely consistent with their views and interests. It also assumes that integrity and objectivity are always for sale. Unfortunately, this claim is frequently repeated without rigorous evaluation or evidence to support it.

Let me be clear. No grant to the Institute is contingent on support for a specific point of view or conclusion. Our views on climate change long predate any support by any corporate entity. Nevertheless, the Institute is cited as an example of an institution propagating misinformation and confusion at the behest of corporate support. The Union of Concerned Scientists' January, 2007, report and its accompanying press release single us out for close scrutiny. In its references to the Institute, the UCS makes basic factual errors and fails to deal with, and fails to challenge the substance of our work, and my written testimony documents those areas in detail.

Often overlooked in this discussion is the critical dependence of the American scientific enterprise on federal funding. The pursuit of that funding can generate unwelcome pressures to conform to prevailing beliefs. Studies of organizations and bureaucracy revealed the existence of distinct agendas and preferences that guide actions, and in the case of grant-making organizations, the relationships that they enter into.

If funding alone invariably affects findings and opinions, then what should we make of the significantly-greater amount spent by foundations and the Federal Government? For the period 2000, 2002, private foundations conservatively spent 35 to \$50 million each year on climate-related projects. Such projects accounted for over 25 percent of the three-year total reported grants and contributions received by 10 of the top 20 institutions. At the same time the Federal Government provides two to \$4 million each year for climate change research and related environmental sciences. In the field of atmospheric sciences, for example, federally-funded R&D accounts for more than 80 percent of the total expenditures for nearly one-half of the top 30 institutions in the five-year period we surveyed.

Who funds an organization or individual scientist or who they associate with is less relevant than the quality of their work. This point was made crystal clear more than a decade ago when Ted Koppel rejected Vice President Gore's efforts to discredit climate scientists on his program, *Night Line*. Koppel observed, "There is some irony in the fact that Vice President Gore is resorting to polit-

ical means to achieve what should ultimately be resolved on a purely scientific basis. The issues of global warming and ozone depletion are undeniably important, but the issues have to be debated and settled on scientific grounds, not politics.” There is nothing new about major institutions seeking to influence science to their own ends. The measure of good science is neither the politics of the scientist nor the people with whom the scientist associates. It is the immersion of hypotheses into the acid of truth. That is the hard way to do it, but it is the only way that works. That philosophy should guide this debate today.

Thank you for the opportunity to be here.

[The prepared statement of Mr. Kueter follows:]

PREPARED STATEMENT OF JEFF KUETER

Mr. Chairman, Mr. Ranking Member, and Members of the Subcommittee, I appreciate the opportunity to appear before you today. I am Jeff Kueter, President of the George C. Marshall Institute. The George Marshall Institute (GMI) is a 501(c)(3) non-profit organization founded in 1984, focused on how science is used in making public policy. The Institute's analyses are designed to improve the comprehension of the public, the media, and policy-makers of important scientific and technical issues and help them distinguish between opinion and scientific fact so that decisions on public policy issues can be based on solid, factual information, rather than opinion or unproven hypotheses. We publish reports and host roundtables and workshops. Our activities focus on environmental and national security topics, with a particular emphasis on ballistic missile defense and space security.

With respect to climate change and its public policy ramifications, the Institute's position, held for nearly 20 years, is that distinguishing human influence from natural variability is not sufficiently understood and that many uncertainties about critical climate processes require resolution before an adequate understanding is established for projecting future climate changes. Statements that greenhouse gases are accumulating in the atmosphere as a result of human activity, that they contribute to warming, that the temperature has increased in the past 50 and 100 years and that humans influence climate only tell us the obvious.¹ The plain facts are that we do not know how much human activity is influencing the climate and cannot know what temperature or climate will be 50 or 100 years from now. The Marshall Institute has long held the position that climate policy should be related to our state of knowledge. We have documented policy actions that satisfy that standard.² However, many proposed actions based on the belief of an impending climate catastrophe are not consistent with our state of knowledge.

Censorship, the Pursuit of Consensus, and Misperceptions About Climate Science

It is, indeed, unfortunate that we are here today discussing calls to effectively silence debate on climate science. The censorship of voices that challenge and provoke is antithetical to liberty and contrary to the traditions and values of free societies. That such calls are now coming from venerable scientific societies, such as Britain's Royal Society,³ and U.S. public policy institutes is disturbing and should raise concerns worldwide about the intentions of those seeking to silence honest debate and discussion of our most challenging environmental issue—climate change.

The foundation of science, as well as its contributions to the betterment of mankind, is based on skepticism and debate. Schools teach that science is the clash of ideas, sharpened by data and observation, and subject to revision and reversal. Po-

¹National Research Council, *Climate Change Science: An Analysis of Some Key Questions*. (Washington, D.C.: National Academy Press, 2001); Committee on Global Change Research, National Research Council, *Global Environmental Change: Research Pathways for the Next Decade* (National Academy Press: Washington, D.C., 1999), 127–129; J.T. Houghton et al., *Climate Change 2001: The Scientific Basis; Contribution of Working Group I to the Third Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge, U.K.: Cambridge University Press, 2001), 698; James Schlesinger et al., *Climate Science and Policy: Making the Connection* (Washington, D.C.: George Marshall Institute, 2001); and William O'Keefe and Jeff Kueter, *Climate Models: A Primer* (Washington, D.C.: George Marshall Institute, 2005).

²James Schlesinger and Robert Sproull, *Climate Science and Policy: Making the Connection* (Washington, D.C.: George Marshall Institute, 2002).

³Bob Ward, “Royal Society Letter to Nick Thomas, Esso UK Limited,” September 4, 2006.

litical discourse rests on the principle that all voices have the right to be heard and that any person is free to associate with whomever they so choose. Science demands those freedoms and scientists ought to embrace them.

The effort to promote and assert a ‘consensus’ on climate change science subverts the basic principles of science and is reaching the point where the very freedoms on which science depends are now in jeopardy—not through action of government but by scientists themselves.

Yet, a careful and thoughtful examination of this issue plainly reveals that the debate is not about science. It is about different interpretations of studies and data when different assumptions and models are used. There is a major distinction between interpretation of data and established, verifiable facts. Much of what is put forward as fact are interpretations of data and the projections of climate models which have not been scientifically validated and which are driven more by assumptions than extensive observational data and measurements. In a free society, policy-makers and the public are free to judge such interpretations and the weight of evidence that supports them.

It is suggested that the guarded language of serious scientific dialogue is being mischaracterized as vagueness and uncertainty as part of an intentional campaign to misguide the public. In fact, the drive to end discussion on climate change is a mischaracterization of what the Intergovernmental Panel on Climate Change (IPCC) said in its Third Assessment Report about uncertainties, as well as statements from the National Academy of Sciences (NAS). As the IPCC, the NAS, and the U.S. Climate Science Strategic Plan, which has been endorsed by the NAS, clearly demonstrate, there are many critical uncertainties in our understanding of the climate system. Until these uncertainties are reduced and our understanding of the climate system is greater, reasonable people and organizations can reach different conclusions about the extent of human influence on climate and potential future impacts. It is puzzling, therefore, that the American public should be told that there is nothing more to know about the human relationship with climate.

For example, in addressing the effect of human activities, a National Research Council (NRC) review reveals numerous qualifications and assumptions:

“Because of the large and still uncertain level of natural variability inherent in the climate record and the uncertainties in the time histories of the various forcing agents (and particularly aerosols), a causal linkage between the buildup of greenhouse gases in the atmosphere and the observed climate changes during the 20th century cannot be unequivocally established. The fact that the magnitude of the observed warming is large in comparison to natural variability as simulated in climate models is suggestive of such a linkage, but it does not constitute proof of one because the model simulations could be deficient in natural variability on the decadal to century time scale.”⁴

There is little question that human activities, activities which raise people from poverty, allow rising living standards and improve human society, have had an influence on the climate. The question is to what extent and how strongly. As the quote above shows, this is not a settled matter.

Further, the Executive Summary of Working Group I, Chapter 12 of the IPCC’s Third Assessment Report contains the following lengthy statement about uncertainties:

“A number of important uncertainties remain. These include:

- Discrepancies between the vertical profile of temperature change in the troposphere seen in observations and models. These have been reduced as more realistic forcing histories have been used in models, although not fully resolved. Also, differences between observed surface and lower-tropospheric trends over the last two decades cannot be fully reproduced by model simulations.
- Large uncertainties in estimates of internal climate variability from models and observations, though as noted above, these are unlikely (bordering on very unlikely) to be large enough to nullify the claim that a detectable climate change has taken place.
- Considerable uncertainty in the reconstruction of solar and volcanic forcing which are based on proxy or limited observational data for all but the last two decades. Detection of the influence of greenhouse gases on cli-

⁴Committee on the Science of Climate Change, National Research Council, *Climate Change Science: An Analysis of Some Key Questions* (Washington, D.C.: National Research Council, 2001), 17.

mate appears to be robust to possible amplification of the solar forcing by ozone/solar or solar/cloud interactions, provided these do not alter the pattern or time dependence of the response to solar forcing. Amplification of the solar signal by these processes, which are not yet included in models, remains speculative.

- Large uncertainties in anthropogenic forcing are associated with the effects of aerosols. The effects of some anthropogenic factors, including organic carbon, black carbon, biomass aerosols, and changes in land use, have not been included in detection and attribution studies. Estimates of the size and geographic pattern of the effects of these forcing vary considerably, although individually their global effects are estimated to be relatively small.
- Large differences in the response of different models to the same forcing. These differences, which are often greater than the difference in response in the same model with and without aerosol effects, highlight the large uncertainties in climate change prediction and the need to quantify uncertainty and reduce it through better observational data sets and model improvement.”⁵

There is nothing in our ongoing review of the new IPCC assessment to suggest major changes in these uncertainties.

The referenced uncertainties are important in considering both the detection and attribution of climate change. Detection of climate change is the ability to say, with some degree of confidence, that the climate has changed. Attribution of climate change is the ability to say, with some degree of confidence, why the climate has changed. There is little question that in many parts of the world there has been a detectable change in climate in the last century. The IPCC authors are correct in saying that this change can be identified despite the large uncertainties in estimates of internal variability. However, attribution is a more difficult problem, and the high level of uncertainty gives us reason to question the certainty of the IPCC's conclusion.

In summarizing their review of the state of science, the National Research Council used highly qualified and nuanced language which further supports our position that the question of human attribution is far from settled. The NRC stated:

“The changes observed over the last several decades are likely mostly due to human activities, but we cannot rule out that some significant part of these changes is also a reflection of natural variability. . . . Because there is considerable uncertainty in current understanding of how the climate system varies naturally and reacts to emissions of greenhouse gases and aerosols, current estimates of the magnitude of future warming should be regarded as tentative and subject to future adjustments (either upward or downward).⁶

If anything, the prevailing view is that we are not able to answer many significant questions about climate change and, at this point, the evidence available is “suggestive” but does not “constitute proof.”

It is important to recognize that these statements are solely the product of the scientists who participated in the process and those representatives of government assigned to produce the summary reports. Scientists have declined to participate in the process, citing its overt biases or unwillingness to commit the time and effort demanded. The failure to give adequate recognition to uncertainty and to reasonable interpretations of its impact on climate models and public policy contributes greatly to the contentiousness in the current debate. Further, expert analytical judgments are subjective and tentative. As the recent debate over the paleoclimate temperature history has plainly revealed, analytical studies are subject to numerous and sometimes substantial questions that alter their conclusions significantly. Expert judgment is not science and neither is the output of models that have been calibrated but not validated. The fact that a range of possible climate futures result from running a single scenario through the models relied on by the IPCC make it clear that the science is not settled and that there is room for differences of opinion and debate.

Nevertheless, as is shown, the statements themselves detail numerous significant uncertainties. That the participants in the IPCC, for example, reached one conclusion does not make that a fact. Fair minded people can reach other conclusions, as the National Research Council did when it concluded that “current estimates of the

⁵ Houghton et al., *Climate Change 2001*, http://www.grida.no/climate/ipcc_tar/wg1/442.htm.

⁶ National Research Council, *Climate Change Science*, 1.

magnitude of future warming should be regarded as tentative and subject to future adjustments (either upward or downward)."

Providing a different interpretation about available data and understanding is not misleading the public nor is it providing inaccurate or misleading impressions. To charge otherwise is tantamount to saying that a prevailing view should never be challenged. The history of science is replete with examples of where the prevailing view was overtaken by new information. We once believed that Pluto was a planet and generations learned of it in that context. Yet, with the expansion of knowledge and sophistication of techniques, we learned that we were wrong and now Pluto is no longer a planet. Eugenics was once supported by the best minds in the Nation before persistence discredited it. Lysenkoism severely damaged Russian agriculture and did great damage to the fields of biology and genetics before it was rejected.

Expressions of doubt—skepticism—about aspects of climate science and projections of future impacts are claimed by some to hinder sound policy. Significant uncertainty is not an obstacle to action. It is a signal for caution and flexibility.

Politics and Science: A Permanently Politicized Relationship?

Politics and science are intrinsically related. As scientific and technical matters have become more influential on matters of public policy and the financing of the scientific enterprise become dependent on the Federal Government, there are strong pressures exerted on science and scientists. All the participants in policy-making—politicians, bureaucracies, public policy institutes, industry, the media, and scientists—have their own preferences, interests, and objectives. These decidedly different views and preferences color the interpretation of often tentative scientific results and the conclusions drawn about the science may be more a reflection of the preferences of the viewer than the science.

Some politicians are inclined to focus on scientific results that support their policy preferences. Similarly, some scientists tailor their research and slant interpretations as a way to curry favor, gain funding, and enhance recognition of their work. Most do not engage in such behaviors and instead act honestly and with integrity.

Scientists, politicians, and public policy institutes regularly use the media to frame public policy issues in ways that are favorable to their preferred positions. While some see this as informing the public, it can be nothing more than clear manipulation. This tactic is effective because of what the late historian Daniel Boorstin saw as a growing gap between what an informed citizen can know and should know.⁷ Information overload and the trend toward "sound bites" have produced circumstances where citizens have lost their capacity for skepticism. Reality often is now measured against created images instead of the reverse.

The media is also criticized for including the views of the so-called skeptics in their reporting. The media's role, of course, is to provide information to the public. Reporters should not be criticized for including diverse views in their work.

In today's highly charged environment of climate change policy, it is claimed that the political interference with climate scientists is unique. It is alleged that federal scientists are not free to speak their minds and are subject to oversight by political appointees. The situation is neither unique nor exclusive to one political party. Our book, *Politicizing Science: The Alchemy of Policy-Making*, documents numerous past examples of where science and politics intersected with damaging impacts on science and negative public policy outcomes.⁸ Further, those who believe the current situation is unique should make themselves familiar with the story of Dr. Will Happer. As told by Happer in *Politicizing Science* and widely reported at the time of its occurrence, in the early months of the Clinton-Gore Administration, Dr. Happer, then head of the Department of Energy's Office of Science, questioned the Vice President's views on climate change and ozone depletion. Despite his scientific credentials, he was summarily dismissed at Gore's direction.⁹

Further, efforts are often made to impugn the credibility of those engaged in the debate through assertions that their views are a product of financial relationships rather than sincerely held beliefs or objective research. All too frequently evidence of a financial tie is sufficient to condemn, without proof that the tie altered the views, opinions, or conclusions in any way. The public discourse suffers as arguments are not explored in sufficient detail.

⁷Daniel Boorstin, *The Image: A Guide to Pseudo-Events in America* (New York: Harper & Row, 1964).

⁸Michael Gough, ed., *Politicizing Science: The Alchemy of Policy-Making* (Palo Alto, CA: Hoover Institute Press, 2003).

⁹William Happer, "Harmful Politicization of Science" in Gough, *Politicizing Science*, 45–56; Holman Jenkins, "Al Gore Leads a Purge," *Wall Street Journal*, May 25, 1993.

Often overlooked or ignored in such discussions is the fact that the American scientific enterprise is critically dependent on funding from the Federal Government. Without public funds, the burgeoning enterprise of universities and researchers would contract dramatically. While few would dispute the value of the contributions made by the government-supported scientific enterprise, some facets of government financing of science are troublesome.¹⁰ Public funding can generate unwelcome pressures on scientists to conform to prevailing beliefs. Public funding is also said to breed alarmism and facilitate distortion in public discourse.¹¹ Studies of organizations and bureaucracies demonstrate that, over time, institutions devise strategies to perpetuate their continued existence and encourage their expansion. Organizations have agendas and preferences and these guide the actions they take and, in the case of a grant making organization, the relationships they enter into. Bureaucratic organizations charged with distributing public resources exert power and influence over their environment as they have considerable autonomy within the policy-making process, are supported by strong clientele groups, and are very internally cohesive.¹² As bureaucratic institutions mature, they develop structures, processes, and procedures designed to preserve the integrity of the organization, socialize its workforce to support the mores of the institution, and build alliances and relationships with external interests and political overseers to assist its growth and expansion.¹³

The U.S. Government is the main source of funding for academic research and development at colleges and universities. With the growing number of federal research supporting departments and agencies and the emergence of new federal missions such as the environmental sciences, the academic research enterprise has grown substantially. While the growth in federal support for R&D brings new opportunities, it also has resulted in near complete dependence of individual researchers and university programs on publicly-financed R&D.¹⁴

Yet, the focus remains on the alleged distorting influence of corporate funding on scientific results. One of the most prominent and frequently voiced fears is that private interests can undermine objectivity, inject bias and error, lead to the suppression of results, and perhaps even precipitate outright fraud. That claim rests on the assumption that private interests demand results that are solely consistent with their views and interests. It also rests on the assumption that integrity and objectivity are always for sale. Unfortunately, the claim is frequently repeated without the benefit of rigorous evaluation or evidence to support it.

When the research process is transparent and results are open for review, it is difficult for bias, fraud, and suppression to long prevail. And, there can be serious legal and financial consequences from such behavior. Those potential consequences provide strong incentives to avoid it.

The George C. Marshall Institute takes its mission seriously and, consistent with its principles, works diligently to publish reports that highlight honest assessments of the science. We support a scientific community that can do its work, generate data, test hypotheses, and educate free of politicization. This campaign to shut off funding of organizations that do not accept the global warming orthodoxy demonstrates that others do not.

We also want to be perfectly clear—no grant to the Institute is contingent on support for a specific point of view or conclusion. Our views on climate change long predate any support from any corporate entity. Grants to support the Institute's programs are made without conditions. Like many public policy institutes, the Marshall Institute receives support from foundations, individuals, and corporations.

Nevertheless, the Marshall Institute is cited as an example of an institution propagating misinformation and confusion at the behest of corporate support. For example, the Union of Concerned Scientists (UCS) report, *Smoke, Mirrors, and Hot Air*, released in January 2007, and its accompanying press release singles out the Mar-

¹⁰ For example, see Linda Cohen and Roger Noll, *The Technology Pork Barrel* (Washington, D.C.: Brookings Institute, 1991); Daniel Greenberg, *Science, Money, and Politics* (Chicago: University of Chicago Press, 2001); and James Savage, *Funding Science in America* (Cambridge, U.K.: Cambridge University Press, 1999).

¹¹ Gough, *Politicizing Science*, 2–5; Steven Milloy and Michael Gough, *Silencing Science* (Washington, D.C.: CATO Institute Press, 1998); Marc Morano, "Meteorologist Likens Fear of Global Warming to 'Religious Belief,'" CNSNews.com, December 2, 2004.

¹² See, for example, Kenneth Meier, *Politics and Bureaucracy: Policy-making in the Fourth Branch of Government* (Wadsworth: Belmont, CA: Wadsworth, 1987), 101–110.

¹³ Meier, *Politics*, 57–77.

¹⁴ *Ibid.*, 102–103.

shall Institute for close scrutiny.¹⁵ Specific to its references to the Marshall Institute, the UCS makes basic factual errors and fails to deny the substance of our work:

- Sallie Baliunas is not a Marshall Institute board member or the Institute's Senior Scientist, as is stated on page 15. She stepped down from both those positions more than a year ago. Nor is she Chair of the Science Advisory Board as is claimed in Table 2 on page 34. The Science Advisory Board has not existed since 2001. The report references a six-year old archived website to obtain basic information about the Institute's organizational structure (see footnote 204).
- Willie Soon is not a Marshall Institute Senior Scientist as is claimed in Table 2 on page 35. Again by relying on a version of the Institute's website archived by a third party, the UCS reports out-dated and inaccurate information (see footnote 261). Dr. Soon stepped down from his position as Senior Scientist several years ago.
- The Marshall Institute did not provide a grant to the Tech Central Science Foundation in 2004 as is asserted on page 32. We received a grant for \$12,602 from them and that grant supported a project focused on risk assessment in the regulation of chemicals, not climate change.
- Neither of the pieces by Baliunas cited in footnote 78 merit the weak criticism delivered by the UCS. Most significantly, both pieces were written before the Institute received any corporate support. The Marshall Institute did not begin accepting corporate contributions until 1999, while both pieces were published in 1995 & 1996.¹⁶ Second, both pieces are intended to review aspects of the scientific debates of the time for the general public. They examine a series of claims about climate, including solar influences, the Arctic, severe weather, and much more.
- A National Academy of Sciences panel endorsed the core premise of the Baliunas-Soon analysis in its examination of the past temperature record (critiqued on page 15). The NAS panel concluded that Earth's temperatures were relatively warmer during the Medieval Warm Period (approx. 1000 A.D.), then cooler during the Little Ice Age (approx. 1700 A.D.), and have increased since then. Sparse data coverage for the period before 1600 A.D. prevented the NAS from reaching definitive conclusions about temperature trends before that date; however some reconstructions before 1000 A.D. show surface temperatures comparable in warmth to the early 20th century. The NAS also expressed "less confidence" in the original conclusions of the Mann et al. "hockey stick" used by the IPCC because "the uncertainties inherent in temperature reconstructions for individual years and decades are larger than those for longer time periods, and because not all of the available proxies record temperature information on such short timescales."¹⁷ An independent review of the statistical methods used in constructing the "hockey stick" revealed additional shortcomings. The review led by Professor Edward Wegman of George Mason University concluded that the "assessment that the decade of the 1990s was likely the hottest decade of the millennium and that 1998 was likely the hottest year of the millennium cannot be supported by their analysis."¹⁸
- John Christy and Steven McIntyre are not "affiliated" with the Marshall Institute as is suggested on pages 23–24. They have participated in our public events as invited guests and Dr. Christy wrote a chapter for our book, *Shattered Consensus*, but neither is formally affiliated with the Institute.
- The Institute's book, *Shattered Consensus*, is cited as an example of "information laundering" (pg. 12) yet the UCS provides no refutation of the contents

¹⁵ Union of Concerned Scientists, *Smoke, Mirrors, and Hot Air: How ExxonMobil Uses Big Tobacco's Tactics to Manufacture Uncertainty on Climate Science*, (January 3, 2007), <http://www.ucsusa.org/news/press-release/ExxonMobil-GlobalWarming-tobacco.html>.

¹⁶ See a statement by a past Institute Executive Director discussing the topic at <http://www.marshall.org/article.php?id=17>, which is a reprint of an op-ed appearing in the *Wall Street Journal* on July 2, 1997.

¹⁷ Committee on Surface Temperature Reconstructions for the Last 2,000 Years, National Research Council, *Surface Temperature Reconstructions for the Last 2,000 Years* (Washington, D.C.: National Research Council, 2006), 3 <http://www.nap.edu/catalog/11676.html>.

¹⁸ Edward Wegman et al., *Ad Hoc Committee Report on the 'Hockey Stick' Global Climate Reconstruction* (Washington, D.C. 2006), 4–5 <http://republicans.energycommerce.house.gov/108/home/07142006-Wegman-Report.pdf>

of the 10 chapters in this well-reviewed book. Should the rights of these authors to publish a book be left to the UCS to decide? The authors of *Shattered Consensus* are experienced scholars with recognition and credits meriting attention to their views. They each have significant qualifications in their fields. For example, the book's editor, Patrick Michaels, was a co-author of the climate science paper of the year for 2004 recognized by the Association of American Geographers.

- There is *no* evidence to suggest that the work undertaken by Dr. Seitz, one of America's most noted scientists and the Institute's emeritus chair, adhered to anything but the highest standards (see page 16); a fact which even the UCS acknowledges. Dr. Frederick Seitz is a distinguished and acclaimed scientist. He is president emeritus of Rockefeller University, a premier biomedical research institution. He is a recipient of the National Medal of Science, the Nation's highest award in science, for his contributions "to the foundation of the modern quantum theory of the solid state of matter." He is also a recipient of the fourth Vannevar Bush Award presented by the National Science Board. His work, *The Modern Theory of Solids*, was the base from which generations of students learned about solid state physics and served to define the field. Elected to the National Academy of Sciences, he also served as its President. His contributions to science and this country are beyond question.

Dr. Seitz is free to express his views and opinions on climate change as he sees fit. The UCS singles out his involvement with a research program funded by R.J. Reynolds in an attempt to prove that he was a pawn in tobacco's scientific disinformation campaign. Yet, the research overseen by Dr. Seitz is not criticized in any way. In fact, the research was of the highest quality, with one of the scientists supported later earning a Nobel Prize.

Nevertheless, if we accept that the source of funding invariably affects findings and opinions, then what should we make of the significantly greater amount of money spent by environmental advocacy groups that promote the notion of an impending climate catastrophe? Governments, private foundations, and non-profit institutions worldwide spend orders of magnitude more to support the view that apocalyptic climate change is near. According to data for the period 2000–2002, private foundations conservatively spend \$35–50 million each year on climate-related projects. This support was significant for many of the receiving institutions, which are principally public policy institutes and advocacy organizations. Climate change-related projects accounted for over 25 percent of the three-year total reported grants and contributions received by 10 of the top 20 institutions.¹⁹ At the same, the Federal Government provides \$2–4 billion per year for climate change research and related environmental sciences. Those funds are significant to the researchers and the research institutions that receive it. In 28 of the top 30 performing universities, federal financing accounted for more than 50 percent of the institution's expenditures on atmospheric R&D.²⁰ Nearly one-half of the top-30 institutions depended on federal support for more than 80 percent of their resources in this five-year period (1998–2002). By comparison, the Federal Government provided 59 percent of total R&D funding at academic institutions in 2001.²¹

We would never call for organizations to stop their funding, even though they make statements that clearly are exaggerations and have no scientific basis. Public policy institutes and think tanks play an important role in American policy-making. They are free to disagree with us just as we are free to make our views known.

Instead of addressing the substance of the debate over the science and its meaning for public policy, public discussion has regressed to inferring motives and attacking sources of support in an effort to silence voices of dissent. Unfounded allegations and unjustified attacks are a poor substitute for open and candid debate.

It is more than ironic, that most of the so called skeptics focus their criticisms on the substance of research and analyses while many who claim that climate science is settled and that we face a climate catastrophe are resorting to character assassination. Our nation rejected McCarthyism 50 years ago and we should not allow its rebirth in another form.

¹⁹ Jeff Kueter, *Funding Flows for Climate Change Research and Related Activities* (Washington, D.C.: George Marshall Institute, 2005), 4.

²⁰ *Ibid.*, 10.

²¹ National Science Board, *Science and Engineering Indicators-2004* (Washington, D.C.: National Science Foundation, 2004), Chap.5, p. 5.

More important than the source of funding is the substance of what an organization produces. What counts is whether the findings stand up to critical examination. Are they reproducible? Can they be verified or falsified?

Ted Koppel best summarized the situation in 1994 when he criticized a similar effort by then Vice President Gore. His admonition applies as well today as it did then:

“There is some irony in the fact that Vice President Gore, one of the most scientifically literate men to sit in the White House in this century, that he is resorting to political means to achieve what should ultimately be resolved on a purely scientific basis. . . . The issues of global warming and ozone depletion are undeniably important. The future of mankind may depend on how this generation deals with them. But the issues have to be debated and settled on scientific grounds, not politics. There is nothing new about major institutions seeking to influence science to their own ends. The church did it, ruling families have done it, the communists did it, and so have others, in the name of anti-communism. But it has always been a corrupting influence, and it always will be. The measure of good science is neither the politics of the scientist nor the people with whom the scientist associates. It is the immersion of hypotheses into the acid of truth. That’s the hard way to do it, but it’s the only way that works.”²²

Improving the Value of Science

Preserving the integrity of science in the public policy process is an important goal. But it would be unrealistic to think that politicization is avoidable. The science on public policy issues is rarely, if ever, definitive. There will always be uncertainties that need to be addressed and matters that require judgment in translating science into policy options and analyzing them and their implications. Given the inherent uncertainties in policy planning and the value judgments that are inherent in the policy process, there is no way to avoid “politicizing” science. Policy-making by its nature is political and always will be. What can be done are improvements in policy planning and analysis that improve the quality and value of science used by policy-makers?

- **Promote transparency.** Models, data and assumptions used in formulating policies should be available for interested parties to review and critique. This would improve the understanding of the validity of the models and how various assumptions affect outcomes.
- **Peer review is an important step if done properly.** A third party should choose reviewers and their comments should be published but not necessarily their names. Beyond standard peer review, someone or some organization should be able to replicate the analysis, especially analyses that can have significant economic and regulatory impacts.
- **Discontinue consensus documents.** The push for consensus on important science policy issues can mask important differences among scientists. Policy-makers are better served knowing where there is widespread agreement and where there are important disagreements. The ability to publish dissenting views in policy documents and NAS reports should be encouraged.
- **Establish a “devil’s advocate” process.** For major issues like climate change and reports like the IPCC Summary for Policy-Makers, some small group should be charged with challenging conventional wisdom that when repeated often enough is treated as fact. If this were being done routinely on climate change matters, it would not be possible to assert that the science is settled, that humans are primarily responsible for the warming in recent decades or that models are reliable for projecting or predicting climate 100 years from now.
- **Distinguish between science and analysis.** Much of the recent criticism is about the inferences drawn from science and analysis of options drawn from science. Policy and risk assessments are not science and it is inappropriate to use disagreement about policy to claim that the integrity of science is being violated.

Thank you for the opportunity to appear here today and to present these views for your consideration.

²²Ted Koppel, “Is Environmental Science for Sale?” *ABC News Nightline Transcript*, February 24, 1994.

BIOGRAPHY FOR JEFF KUETER

President, George C. Marshall Institute

Mr. Jeff Kueter works with scientists to help improve the understanding and awareness of complex scientific topics to the public, the media, and policy-makers. Focused on national security and the environmental topics, Mr. Kueter manages the day-to-day operations of the George C. Marshall Institute, authoring its policy papers and analyses and engaging the public and the policy-making community. He received his B.A. in Political Science and Economics at the University of Iowa, where he graduated with honors, and an M.A. in Political Science and another M.A. in Security Policy Studies and Science & Technology Studies, both from George Washington University. He previously served as Research Director at the National Coalition for Advanced Manufacturing (NACFAM).

DISCUSSION

CLIMATE CHANGE: INDUSTRY REACTION

Chairman MILLER. Thank you, Mr. Kueter. There should be ample time for all the Members of the Committee to ask more than one round of questions, and I will begin by recognizing myself for five minutes.

Mr. Rampton, you described in your testimony of the prototypical corporate campaign to create doubt, and then you heard Dr. McCarthy, I think, talk specifically about the campaign with respect to climate change, global warming. How well does what Dr. McCarthy described fit the model that you described?

Mr. RAMPTON. I think it is a very clear example of exactly what I have been describing. And it is only one of a number of campaigns that have been carried out over the past two decades by the various industries. I mean, there was specific talk of ExxonMobil, but that is only one company. The oil and gas industries in general, the coal industry have funded numerous campaigns. One of the first campaigns of this type began in the early 1990s funded by groups like the National Coal Association, the Western Fuels Association, and it was called the Information Council for the Environment, and its goal was to, in their words, reposition global warming as a theory, not fact.

A number of the scientists that were recruited for that campaign, the so-called ICE Campaign, have later gone on to do exactly the same work and make the exact same statements over the subsequent two decades. So you see the same figures recurring, making the same statements, expressing the same skepticism about global warming.

And the effect is to amplify the views of a relatively small number of scientists and make it seem like that is, like there is a huge scientific debate going on when, in fact, there is not.

CLIMATE CHANGE: SCIENTIFIC REACTION

Chairman MILLER. And Dr. McCarthy, Mr. Rampton in his testimony talked about, described the difference between how scientists view truth and how public relations view truth. Scientists think truth simply exists, and it is for scientists to discover and understand, and public relation folks are more inclined to think that truth is a little more malleable than that and may be created or at least shaped.

I think we all agree that there is some harm in viewing truth that way, but could you describe for us what that harm is?

Dr. MCCARTHY. Well, first, I think the truth that scientists would revert to is also evolving. It is not a certainty. In fact, if anyone alleges that we know any of the sort of the details that have been referred to here regarding climate change with absolute certainty, one has to be very suspect of that view.

I think what we have seen, though, is that the representation of a contrary view and particularly that that has been supported by industry as we have seen individuals as is documented in our report, move from the campaign of the tobacco industry directly into the oil and climate change industry, have represented as facts information that is not supported in the scientific literature. These are often based on reports that have not been published, are not in the previewed literature, and in some cases have been published but discredited by numerous additional publications and yet are still put forward as supporting arguments for a position that is no longer tenable.

Chairman MILLER. Thank you, Dr. McCarthy. A joke, and I guess this is fairly an acquired taste sort of humor, on universities is that administrators hate having scientists on faculty panels because you never know where they stand. When you change the information, they change their positions. Is that how you see scientists proceeding and should be proceeding?

Dr. MCCARTHY. If one were to go back to maybe 15, 20 years ago in the climate change discussion, it was very difficult to find clear consensus as to whether the Earth was warming in an unusual way or not in the 1980s. And then when that was established in the early 1990s, it was, in fact, difficult to find a clear statement that would come out of any of these analyses that this was likely due to human effects.

As we move beyond the mid '90s, we find that that evidence is stronger and stronger. So it is an evolving understanding of science, and if anyone could prove this major premise wrong, A, that the Earth is warming, B, that is largely warming as a result of greenhouse gasses being added to the atmosphere, C, that human activities are largely responsible for that, you know, you would have Nobel prizes all over the place. This is a really well-established body of information now.

CLIMATE CHANGE: GOVERNMENT REACTION

Chairman MILLER. So that Mr. Rampton may feel better about exceeding his time, I will indulge myself by going a little over the five minutes.

Mr. Maassarani, your report is an assessment of efforts to filter the message of federal climate scientists, and you have heard Mr. Rampton describe the model of how to view the public relations media campaign technique with respect to scientific questions. How well does the model he described fit what you found in your report?

Mr. MAASSARANI. I would simply say that where Mr. Sheldon Rampton describes the construction of one end of the scientific debate, the one aspect of the truth that happens to fit the incentives of industry or whoever is involved, what we have on the government side here is the deconstruction of the scientific debate coming

from mainstream science. So what you are doing is you are offering forth scientific views from the minority, and then you are suppressing those of the majority.

Chairman MILLER. Mr. Rohrabacher.

FUNDING FOR CLIMATE CHANGE SKEPTICS

Mr. ROHRABACHER. Thank you, Mr. Chairman. I want to warn you a little bit about telling a joke at a hearing. I attempted to make light of an argument at the last hearing dealing with global climate change, mentioning in jest that perhaps dinosaur farts caused global warming back in the old times, and guess what? I was actually making light of the argument that anyone could claim that flatulence would change our climate, and it was reported widely across the country on numerous, in numerous periodicals that that was a very serious statement. That was my position. That shows you how dishonest this debate has gotten over global warming. Anyone who was at that hearing understood very well I was making light of that whole argument on the other side, yet I was being presented, it was being presented as that was my opinion.

I think that that is what we are presented time and time again when we hear about the consensus that we have human-caused global warming. Let me note when William Happer, who is now at Princeton University and a member of the National Academy of Sciences, was fired from his job as chief scientist from the Department of Energy as Mr. Kueter just mentioned. I didn't see any of these scientists stepping forward and saying, "My God, Al Gore is trying to skew the scientific research that is going on in global warming." We didn't hear anything. This was a blatant example. Not like the examples that you gave where someone's press release was edited so that his views would be presented as his own views instead of the views of the department in which he worked. No. This was firing a man who now is with the National Academy of Sciences and a Professor at Princeton University or is it Princeton University did he come from? Yes.

Let me note here again I have a few statements here from the Director of Research, Royal Dutch Meteorological Institute, Professor of Aeronautical Engineering, Penn State, "I protest against the overwhelming pressure to adhere to the climate change dogma." Here is Richard Lindzen, Atmospheric Physicist, Professor of Meteorology at MIT, and if I can find my reading glasses I will be able to do this a lot better, but I will attempt to read it here.

Thank you very much. I was talking about the gentleman who, from the Royal Dutch Meteorological Association say that he was dismissed as Research Director from that meteorological association after questioning the scientific under pane of global warming, as well as respected Italian professors and they name them here, Alfonso Sutura and Antonio Speranza. They all disappeared from the debate in 1991, apparently losing climate research funding for raising questions. Now, why did they lose their funding? They lost their funding because at the Department of Energy, William Happer, had been eliminated by Al Gore because he was skeptical of the global warming theory.

Here is a few more for you just to let everybody know about the consensus that we are talking about. Timothy Ball, Chairman of

the Natural Resources Stewardship Project and former Professor of Climatology at the University of Winnipeg, "Believe it or not, global warming is not due to human contributions of carbon dioxide. In fact, it is one of the greatest deceptions in the history of scientists, of science, and we are wasting time, energy, and trillions of dollars."

Then, of course, you have got this gentlemen who, Dr. William Gray, one of the most distinguished meteorologists in the history of this country, Professor of atmospheric science, the University of Colorado, who stated I had, and this is, he had said he had been cut off of all of his research grants once the Clinton Administration came in because of skepticism of global warming. "I had NOAA money for some 30 years, and then when Clinton, the Clinton Administration came in and Gore started directing some of the environmental stuff, I was cut off. I couldn't get any NOAA money. They turned me down 13, for 13 straight proposals."

Now, these are ample evidence of the type of suppression of the other argument that is going on in order for you gentlemen and other people to claim there is a consensus. There are hundreds of such scientists who are very respected, who have been cut off, and why aren't they getting Nobel prizes? Because they have been cut off for their research by anybody who even suggests the skepticism of global warming. Yet we hear a complaint now about people's press releases being edited.

Let me note here that, just about global warming itself. Yeah. Nobody suggests that there isn't some warming going on in the planet. Nobody suggests that. There is some kind of warming going on in the climate. They used to call it climate change. I mean, they used to call it global warming. Now they call it climate change in order to cover themselves, but there has been a change, and that is because, and over—I saw the charts for the people that came back here and talked to us, over 150 years there has been a one degree change in the temperature, one degree. And I noted at that hearing, this is the one where they tried to claim the only quote they used from me was a dinosaur flatulent quote, I noted that they had started that one degree change in temperature at the very bottom of a 500-year decrease in the temperature of the world. It is called the mini-ice age. So we have had since the end, the bottom level of the mini-ice age we have had a one degree change in temperature. We have had many, many changes and cycles in the temperature of the Earth. Many of them. And those cycles were caused probably by the same reason that there is now another cycle going on. It is called solar activity.

Now, no doubt there is, there has been these cycles, and we are in one right now, and solar activity, I believe there are many scientists who believe that that could be just as important, if not more important, than anything human beings are doing.

And I will leave it with this, and that is if it wasn't solar activity, if it was really humankind doing this, why is the temperature going up on Mars? NASA just released a study suggesting that the polar ice caps are melting on Mars. Is that because of all the humanlike activity going on on Mars? I don't think so.

So I think this debate, Mr. Chairman, it is an important debate, and but we do not need to dismiss someone's arguments, just say-

ing we have a consensus, so instead, what we are going to do is not even listen to a scientist who is suggesting that there is an argument against the positions and the "facts" that are being presented to us that justify an analysis that comes up that global warming is caused by human beings. And again, listen, I consider myself open minded in this. I have an opinion, a strong opinion, but I am never going to tell someone, I am not going to listen to your argument because I have a consensus of people I have talked to, and I am not even going to actually confront your arguments.

That is what we have here today, Mr. Chairman. We have a dismissal of other people's arguments. We have blaming Exxon for it, and I am very happy to see our young people here wearing their Exxon shirts, and they are participating in the system, and I applaud you for that. And there are certainly big corporations that do manipulate people and try to for their own purposes. There are other interest groups that manipulate people as well. A lot of interest groups in this country that manipulate people as well.

With that said, I thank you for the hearing because I think this is good for the debate.

Chairman MILLER. Well, Mr. Rohrabacher, you have a second round of questions and perhaps something you say in the second round might end in a question mark. And Mr. Rohrabacher, I will not promise you that I will avoid any and all jokes in the conduct of these hearings, but I will avoid jokes about flatulence.

Mr. Baird.

SCIENTISTS AS POLICY ADVISORS

Mr. BAIRD. I thank the Chair. I want to begin by thanking the panelists, and I think this is really not just about climate change. I believe the evidence on climate change is quite compelling. I think the international report suggests that it is. What this hearing is really about is the distortion of science, and my belief, and I think the evidence is compelling, that this Administration has put unprecedented and undue stress, or really censorship, on researchers throughout federal agencies. And I applaud the individuals for raising this. I think that is repugnant and contraindicated in terms of our trying to understand issues.

So I share the broad concern about the distortion of scientific policy, one manifestation of which may be the global warming debate, but there are many, many others, including reproductive health, how federal advisory committees are structured, how is on them, how is off, et cetera, and this committee should look into that.

Having said that, I also want to say that I think, Mr. Rampton, your points about the power given to scientists cut both ways. I am familiar with cases where a number of scientists have signed onto letters saying they hold a position, you know, so the PR campaign is X number of "distinguished scientists" have signed a letter about, fill in the blank. And at least some of those cases I am quite confident that the "distinguished scientists" have not ever read the particular study they are signing onto, but they are lending their weight to it. And this happens on both the left and the right, and again, as I stated at the outset, I think it is wrong if it happens on either side, because I think scientists on all sides needs to hold themselves to a higher standard.

So one of my questions would be are there standards within the scientific community about what one must do before one signs onto some such letter? In other words, read the studies yourself, look at the data from the particular studies, et cetera, or can one just sign on and say I hold a doctorate or a Master's degree in some form of science. Therefore, I am qualified to comment on a particular issue. And I will just put this out to the panelists.

Mr. RAMPTON. I think the short answer to the question of whether there those standards would be no. I mean, in fact, there are people who claim, speak on matters of science who have, you know, law degrees or there is a fellow named Stephen Malloy, who has a Master's degree in biostatistics and is very prominent and outspoken about the problem of what he calls junk science, formerly funded by the tobacco industry. In fact, very, until recently, and he doesn't disclose his current funding information. So in terms of credentials, as a scientist he has really none, and yet he is often cited as an authority on matters of what is and is not good science.

Mr. BAIRD. Mr. Rampton, would you say, would you suggest, are you equally concerned if people signing onto letters on either side of an issue or not, versed in the issue that they are signing onto?

Mr. RAMPTON. Well, I think a scientist is a citizen like anyone else and has the right to express his or her opinion. I think that when scientists lend the credibility of their expertise to something, they ought to be speaking on the matter where, in fact, they are experts, where they actually have degrees in that particular field. And you do have a common problem that I think scientists tend to assume that because they have rigorous training in some field, that their intellect is sufficient to enable them to weigh in on all sorts of other areas where they are not qualified. And you have any number of cases where scientists have made outright fools of themselves by weighing in on areas where they are not, in fact, expert.

So I think that when a scientist speaks outside his or her field of expertise, their voice should be treated as simply the voice of another citizen. Does that answer your question?

Mr. BAIRD. Yes. To some degree. I will follow up, and Dr. McCarthy, first of all, as a person who first became a member myself of AAAS some 30 years or so ago now, I suppose, I congratulate you on your election. I have great respect for the institution.

I also have some concerns about cases I am intimately familiar with where *Science Magazine* rushed publications into press in order to influence public policy, and I think without due peer review. Now, I am not saying you did it because you were pressured by some outside group, et cetera, but I do think in this particular case it was an unfortunate act and did not reflect the highest standards of either the Association or the journal of *Science* itself.

And I guess I would just ask your comments about that. If there is a matter of public policy of some significant import, should that lead a journal to rush something into press without adequate peer review, or would one not want to say precisely because a matter of policy is being influenced we should exercise particular attention to make sure that the peer review is thorough and we get the data right?

Dr. MCCARTHY. Well, there is only one obvious answer to that, of course. An organization like the AAAS should always be con-

cerned about its reputation. I am not familiar with the incident that you have alluded to, but it sounds as if that is one in which you thought their reputation was not well served, and based on your representation I have to agree.

But let me give another example. Three years ago now the Union of Concerned Scientists, first becoming aware of some of the abuses of our federal agencies with regard to science, issued a report on restoring the integrity of scientific integrity. And that is, again, something that the Union worked a great deal to make sure was a very crisp document, and the initial 60 people to sign that were not just random people. To see whether this really was a strong statement, to see whether it resonated, individuals who were winners of the national medal of science, former advisors of Presidents of the United States of America, all the way back to President Eisenhower, were asked to look at this statement. Heads of major research institutions and to the best of my knowledge no one who looked at it said, I won't sign it because it is wrong or because I think you have misrepresented this. Some people said I can't sign it because it would put my institution at stake. I am that concerned. But here is an example of where there was a very careful effort made to insure that this was set at the highest level, of people who could say, you know what? This happens all the time. Let me tell you about what happened in 1979, let me tell you about 1963. And we didn't get that. So then when you go through that process, you can be confident that the integrity of the institution, the reputation of the institution is not going to be harmed by this.

But the case you mentioned I would certainly agree. Any effort to rush something without the process that is the tradition of that scientific body would be reckless and irresponsible.

Mr. BAIRD. I will chat with you separately about that, but I also commend you for that report. We actually held rump hearings, and I say rump hearings because the then Chair of the Committee would not allow us to have official hearings on that very issue that your report concerned.

Thank you, Mr. Chairman.

Chairman MILLER. Thank you, Mr. Baird. Mr. Rothman.

RECOMMENDATIONS

Mr. ROTHMAN. Thank you, Mr. Chairman. Thank you, gentlemen, for your work and for your appearance today.

I think I have detected a consensus, which is that everyone agrees there have been abuses of scientists in the employ of the Federal Government by members of the Federal Government. Is that a fair statement of one of the things you can agree on? And if so, what do you each recommend as ways to prevent that from happening again?

Let us start from my right. Mr. Kueter.

Mr. KUETER. Thank you for the opportunity to comment on that subject, sir. In my prepared remarks I have a set of recommendations that the Institute has vetted to get at these issues that you have described.

The first that we put forward is the promotion of transparency, and it goes to an issue that Mr. Baird just mentioned. The need to have data that is used in making federal decisions brought for-

ward for critical analyses and audits is essential in order to understand the veracity of the claims that are being made. To date that is a difficult process to get through.

Mr. ROTHMAN. So what is the fix?

Mr. KUETER. Require that the peer-reviewed studies that are being used to guide your decisions have their data archived and be open for scrutiny and analysis by independent researchers. It would be our recommendation that you establish a devil's advocate's process, similar to what the DOD uses with its red team process or its team B processes, where you bring in a set of folks that don't necessarily agree with the consensus on a particular issue and ask them to scrub that issue thoroughly and report back to the Congress or a particular committee with their findings. At that point then you would have probably two very different sets of arguments that would be put forward and perspectives on a particular issue. Then you would understand the parameters——

Mr. ROTHMAN. Okay.

Mr. KUETER.—and distribution of——

Mr. ROTHMAN. I appreciate those recommendations, and my time is limited, and I will read those and recommend the staff read them as well.

I am more concerned about the, that just brings more information in different points of view, which is great and very helpful, but I heard the concern being over the twisting of scientific opinion or the censoring of scientific opinion or the elimination of a point of view from the Administration. So how would, could we have some comments on how to avoid that, the censorship and the elimination of these differing points of view? This brings in other points of view as well. Mr. Kueter. Mr. Maassarani.

Mr. MAASSARANI. If I may. Thank you. We have an extensive list in the report itself. I will go over a couple that I think are particularly important.

One is to implement clear and transparent media policies at the agencies where, these can require prior notification and a summary of any media interactions that have occurred but that eliminate the need for required, mandatory, pre-approval, monitoring, routing of media requests from one scientist to another, as well as drafting of anticipated questions and answers by the scientists prior to the interviews. That would be one step.

I will mention one more real quick, and that is to reaffirm and to put into the policies at these agencies the personal views exception. Basically, we feel that insofar as agencies have the right to control the kind of message that is going to be projected on their behalf, especially on policy matters, that doesn't mean that it forecloses a scientist's constitutional right to speak. In those instances scientists need to know that they can speak out——

Mr. ROTHMAN. Right.

Mr. MAASSARANI.—on policy matters.

Mr. ROTHMAN. The question is from a federal office building with federal resources, et cetera. Those I would think are other issues, but for allowing that right of a citizen.

Mr. MAASSARANI. Well, as long as they qualify the statement that they are saying this on their own, as their own private view.

Mr. ROTHMAN. And I apologize for the brevity of the time.

Mr. MAASSARANI. No problem.

Mr. ROTHMAN. Dr. McCarthy.

Dr. MCCARTHY. I am not sure you were here, Congressman Rothman, when I mentioned I congratulate the House on its passage of the whistleblower protection measure and hope that the Senate follows your lead. That would be one very important measure.

Another, following up on the earlier remarks, would be to insure that when there is an interaction between a public relations staff and a scientist, the scientist has the opportunity for final say in that document. And if changes have been suggested which actually change the apparent meaning of the findings of the scientist, then the scientist should be able to reject them.

Mr. ROTHMAN. Do you think this should be as a matter of federal law, or do you think there should be, these procedures of an Administration to best practices, if you will?

Dr. MCCARTHY. I leave that to you, you wise people.

Mr. ROTHMAN. Yeah.

Dr. MCCARTHY. I would just like to make certain that in whatever way this can be guaranteed to federal scientists.

Mr. ROTHMAN. May I ask Mr. Rampton to comment, Mr. Chairman?

Mr. RAMPTON. Well, I just mention that medical journals have dealt with a fairly similar problem, which is that, you know, a number of privately-funded medical researchers in the past have run into the situation where as a condition for, you know, funding of their research by some, for example, pharmaceutical company, there is a stipulation that the company owns the right to prior approval of publication. And some of the top medical journals have adopted a policy which is that they will not publish research in their journals unless the scientist who has gotten funding has been guaranteed the right to publish regardless of what he finds.

And I think similar provisions by the Government with regard to Government funds to scientists makes sense that whatever scientists finds ought to be, you know, there should not be someone, there ought to be a firewall of protection so that the scientists at the moment of having something to publish or findings to announce is guaranteed that regardless of what is found that there will be freedom to publish it.

Mr. ROTHMAN. Mr. Chairman.

ADMINISTRATION POSITION ON CLIMATE CHANGE

Chairman MILLER. Thank you, Mr. Rothman. Like Mr. Rothman, I think I will try to make sure there is some consensus among the panel on some topics at least.

It has been at least a generation since there has been any serious scientific question about the adverse health consequences of smoking. The documents that we have discovered from the tobacco industry in litigation show that the tobacco industry, in fact, knew before federal researchers did of the adverse health consequences because of their own research. Their own research showed the damaging health affects of smoking, but they simply paid scientists to put their name on documents that the industry itself had drafted.

Do any of you disagree that that is morally blameworthy conduct? Does anyone wish to defend that kind of conduct? Now, I know there is some question about whether that is happening now and who is doing it, but as a general matter does anyone wish to defend that kind of conduct?

There has been a puzzling disagreement going back to where there is not consensus within the Bush Administration. We have heard from Mr. Maassarani and from Dr. McCarthy that there has been an effort by the Bush Administration to control what federal scientists say about global warming. We have heard that Phil Cooney, who is not a scientist but worked at the Council for Environmental Quality, excuse me, worked at the American Petroleum Institute and has gone from there to work for ExxonMobil, edited climate change reports behind the scenes to make the reports much more equivocal than what the scientists who had written them initially, what the scientist draft expressed. But just a month ago Dr. William Brennan, not the Supreme Court Justice, but a NOAA official and acting director of the Climate Change Science Program testified before the Senate that the Bush Administration accepted and had always accepted the 2001, National Academy of Science report on climate change science, that greenhouse gasses are accumulating in the Earth's atmosphere, and are the result of human activities. He said that the Bush Administration accepted the latest report of the IPCC and had never held a different position.

Mr. Maassarani, what are we to believe?

Mr. MAASSARANI. Sorry I can't answer that. I think to some extent with the IPCC report having come out it is going to be more and more difficult to support the proposition that the Bush Administration held earlier, that there is no connections or that global warming isn't happening. So no matter how much you would want to resist it anyway, but I think perhaps that is what we are seeing here. I am not sure if what you are trying to get at, I am not sure it means that the Bush Administration is listening to its scientists more than it was before. I would hope so.

Chairman MILLER. Dr. McCarthy.

Dr. MCCARTHY. It is a puzzle. In the spring of 2001, when President Bush announced that he would no longer honor his campaign position to regulate carbon dioxide emissions released to the atmosphere, it came just a couple of months after the third assessment report of the IPCC. At that time Mr. Bush asked the National Academy of Sciences to take a look at the IPCC report, and you have just given us the bottom line of the National Academy conclusion. And many of us were very hopeful at that time that now we would begin to see action taken. Again, for those who aren't aware, the U.S. delegation to the IPCC proceedings is formed by the State Department. It includes high ranking scientists from our science agencies, but it really is, it really does represent the views of our Department of State in all those deliberations.

So the fact that beneath the radar the sort of actions that this report and others have managed to reveal suggest that even though things were being said which sounded as if the Administration was not challenging the science, at the level in which the work was being done, that, in fact, was a very different matter.

Mr. MAASSARANI. Can I just add something to that? I just want to—

Chairman MILLER. Mr. Maassarani.

Mr. MAASSARANI.—make clear that as far as we know the U.S. National Assessment still is not referenced on the websites. It is still, any reference or mention to it still seems to be suppressed as it was when it first came out. So certainly that hasn't happened.

Chairman MILLER. Mr. Rohrabacher, do you wish to complete the question you began earlier?

CLIMATE CHANGE SKEPTICS

Mr. ROHRABACHER. Thank you very much. Well, let me just note that the Government Accountability Project's report, while having the same sort of tone that we have heard here today and also included I would say the innuendos that we have heard today, also lacked the specific charges that we haven't heard here today as well. I mean, it is one thing to imply that there are this sort of stifling going on and when the report is said, and I quote, "It found no incidence of direct interference in climate change research, as well as the investigation by the Government Accountability Project has uncovered no concrete evidence that political actors are directly and willfully interfering with this fundamental aspect of scientific work."

And now, we can make innuendos all we want, and we can ignore everything that the other side does that is very blatant in suppressing this argument, like the firing of the lead scientist at the Department of Energy. It is very easy for someone who is a political activist or politically oriented who has got some scientific credentials or sometimes doesn't have scientific credentials but is speaking as if he or she does, to sort of imply that there is some sort of suppression going on when obviously, as I say, examples and I gave four earlier on, of blatant examples of where people were losing contracts for their position as being skeptical of global warming, but for example, we have NASA, James Hansen and you are aware of this. Maybe perhaps one of the people you are talking about in your report was Mr. Hansen who complained that his press releases were being manipulated or his association with the press was in some way being controlled. Last week at a hearing on the Senate side acknowledged that he had been interviewed 14,000 times, 14,000 interviews on global warming. Now, someone who is capable of having that many interviews, let us just, let us say there was only a thousand. Okay. Maybe it wasn't, this is only what I saw in the press. This is what I saw as a question during the interviews over there, but let us say it was just 1,000. That doesn't indicate that there is some suppression going on. It may indicate there is a guy over at NASA who thinks his opinions are worth more than anybody else's opinion on this, and maybe he was presenting it in a way that was perceived as speaking for NASA.

Now, there is every right for the people that work at NASA to make sure that someone who disagrees with them is not presenting himself or herself as spokesman for NASA instead of this is my opinion on what I have found and what I believe to be true on this issue.

So that is number one. And I would like to remind everybody about when people talk about, you know, coming in and not having the right kind of science to back up charges and things like that. You know, I have been here longer than I think anybody in this room, and I will tell you the first incident that I ever had like this, I was, I have been a Member of the Science Committee for 19 years now, and my very first year Al Gore came right there and sat right there.

Now, I was behind him a few days ago and listening to him, and it may surprise some of you, but I agreed with about half of what Al Gore had to say, and that is a pretty good consensus considering that, you know, I don't agree with the global warming aspect, but trying to clean up the pollution, make us energy self-sufficient. Man, I think that some of his ideas were right on, and I am planning to try to work with my fellow Republicans to work on that.

But my first year Al Gore came there and sat right where you are, and he had, again, he had all the camera crews out so that all the young people in the world could see him pounding on the desk, and he was demanding that the former President Bush, who was President then, declare an ozone emergency. Do any of you remember that incident? Do you remember that at all? Okay. That was very clear to me, because that was my first year as a Congressman. Do you know what happened? He was demanding that the President declare an ozone emergency for the northeast of the United States, which would have cost thousands of jobs to add billions of dollars of disruption to our economy, and guess what? A week later they found out that it was a misreading of some instruments on one piper cub airplane by some researcher from one university that misread the instruments.

Now, what I see here is when we are making charges like, which are monumental to our economy, billions of dollars worth of outcome, these kids lives are not going to be better if we end up trying to save the climate rather than clean the air or rather than making us energy self-sufficient, because we get, you know, because we get focused on a wrong goal because people are trying to claim there is an ozone emergency when there isn't one.

So I will end it with a question so anybody can—is there or are there or are there not, you have stated over and over again, this consensus in order to dismiss any real discussion of global warming I keep hearing the consensus, you know, rather than confronting the arguments, I get in two arguments today, global warming is happening on Mars. We also mentioned how they began their research and the one degree temperature rise started at the bottom level. Two big, you know, issues there with global warming. Instead of them confronting arguments, you are saying that a consensus isn't there. Do you agree that there are a significant number of scientists with very good credentials who are not part of this so-called consensus, who have ample reason and are legitimately offering some skepticism of global warming? Or is this something, again, dismiss it?

Chairman MILLER. Actually, the time limit applies to the question and the answer, and we are now gloriously past the time, but does any of you have a very brief answer, and or can you provide

a more complete answer in writing? A very brief answer. Dr. McCarthy.

Dr. MCCARTHY. I can try. Certainly there is a range of opinions on all these issues, and this is what the IPCC is all about. It is in distilling where the best science is, and I must tell you that that is a very agonizing process, and it has the transparency that Mr. Kueter was referring to earlier. Everything is documented. You can go back and find all those reviews. Everything is there to be examined, and it is a very conservative process. Could it be the sun? Well, you can ask that question. It is in energetics. You can ask that question. How much is the solar variability changing over time? How much is the insulation of the atmosphere changing? How do they compare?

This can all be done and is being done, and it turns out that the solar variability as best estimated, we only measure precisely back to 1980, but with sun records going back for the last 100 years, is about one-tenth, it is about plus or minus two-tenths of a watt per square meter, about one-tenth the two watts per square meter that we have now accumulated as insulation in the atmosphere.

So there is no scientific paper that would allow you to say that you can test that theory and find anything like the signal for solar variability that you find for the insulation effect, and that is the way this science proceeds. If anyone could write that paper and showed how the solar variability could affect this change, then it would be in these reports.

Chairman MILLER. Mr. Kueter, can you answer in a sentence that Hemmingway might have written instead of James Joyce?

Mr. KUETER. I would refer the Members to the Executive Summary of Working Group I, Chapter 12 of the Third Assessment Report of the IPCC, which documents a number of ongoing and outstanding uncertainties in the state of science. That similar list was reproduced in the Fourth Assessment released just two months ago. The importance of those uncertainties is documented in the National Research Council's 2001 report that was previously referenced. I would say that is the subject of the debate and ought to be the focus of our future discussions about climate change.

Chairman MILLER. Mr. Maassarani, a Hemmingway sentence.

Mr. MAASSARANI. If I may just briefly confront two statements made by Mr. Rohrabacher. The first was in an earlier statement about press releases being edited to reflect the sole opinion. There is nothing in our report or investigations that says that. It says press releases were edited to downplay or minimize their scientific significance.

The other thing, 14,000 interviews I believe is a misstatement as well. Fourteen thousand Google hits I think was at issue there, and I can say three things on that subject. First, our studies have found that media interactions are virtually uninhibited when it comes to local, foreign, or technical news journals. The restrictions are for major outlets.

Second, the comment doesn't specify what time period we are talking about for Hanson to talk. We have seen these problems as problems emerging in the recent past.

And lastly, it is our belief that one incident of interference based on political motivations is unacceptable. Thank you.

FREEDOM OF INFORMATION ACT REQUESTS

Chairman MILLER. I need to excuse myself, I have votes in another committee beginning now, but, and I will turn the gavel over to Mr. Rothman in just a moment. But Mr. Maassarani, before I leave, Mr. Rohrabacher pointed out gaps in your report, instances in your report where he said you had no evidence. I admired how far your report was able to go based on FOIA requests. My own experience in FOIA requests as a Member of Congress, not as a Chairman of the Investigations and Oversight Committee, was how limited a FOIA request was. The limitation or the exception for pre-decisional documents really meant all the good stuff was not really subject to a FOIA request, you know, why the decision was really made.

What kinds of obstacles did you find in your research using FOIA requests, and would you work with our staff if you assumed that we may, we have more tools in our toolbox than FOIA requests?

Mr. MAASSARANI. Certainly. The obstacles include the following. We FOIA'd three agencies: NASA, NOAA, and the EPA. It was a fairly involved request, asking for a number of things that covered anything related to media policies or guidelines as one of the points. NASA got back to us with their media policy, and that is it. It was a nine-page NASA response. EPA was unresponsive to our request. They had nothing regarding, relating to media, and you can see some of the language of our FOIA in the report. There is, it is beyond me to imagine how they would not have a single record on what we requested.

Other irregularities, at NOAA, for example, though they got us a good load of FOIA documents. We had scientists directly send us some of the FOIA material they were giving over to the FOIA office, and that never made it through the official FOIA process, upwards of hundreds of pages of documents.

So and lastly, on a legal point, the FOIA, the redactions that were made and the withheld documents, they weren't actually justified under any of the FOIA, under the law of the FOIA, so we didn't know whether they were pre-decisional or what the basis was.

Thank you.

Chairman MILLER. The Chair now recognizes Mr. Baird for questions, and if Mr. Rothman will now assume the gavel.

SCIENCE PUBLISHING CONCERNS

Mr. BAIRD. I thank the Chair, and I want to pose two ethical questions, and I will preface this by not only do I have a doctorate in a scientific field, clinical psychology, specialized in neuropsych, but I used to teach the statistics and research methods course and used to teach the history of science and scientific ethics, and so I know a little about Popper and Kuhn and Feynman and some of the other folks.

And let me just pose a question to my dear friend from California, Mr. Rohrabacher, and then the converse question to the panel. And I will ask my friend from California the following question, and then I am going to propose the converse to the panel, because I think there are some problems on both sides.

For the gentleman from California, what do you think the ethical position should be if you are a scientist who in your best judgment has objectively analyzed the data and they lead you to one conclusion. As best you understand it from the data, and a supervisor tells you for political reasons because your data don't lend credence to an official position, that you can't publish that. So you think you have something to offer to the debate, and a political person, and I am going to hold that question. I will ask the gentleman to respond.

Let me do the converse, however. Mr. McCarthy commented and others the passage of the Whistleblower Protection Act, and one of the amendments of that, which I voted for but with some reservation, said basically that it is not allowable for a supervisor to prevent something from being published after it has been accepted in a peer review journal.

Let us suppose you are a supervisor with ultimate responsibility for the scientific credibility of what comes from your shop. Someone within your shop sends, unbeknownst to you, a publication to a peer review journal, which accepts it. You learn about the acceptance post-talk and then say, wait a second, I haven't had a chance to review this document, and upon reviewing it, I find significant flaws in the data, but the Congress of the United States has now passed a law that says you can't withhold the publication of a study that you believe to be flawed on its scientific merits. And I know of a case where that happened, by the way.

So the gentleman from California and then the panel if we may.

Mr. ROHRABACHER. First of all, maybe you could give me three examples of where that has happened. I have given you four or five examples of how it happened blatantly in the last Administration and how there are numbers of scientists who claimed to have been frozen out of grants because they were—

Mr. BAIRD. Well, hypothetically. I know of examples where it has happened.

Mr. ROHRABACHER. Okay. Well, I need three examples, and I would like for the panel to come up with three examples for me because—

Mr. BAIRD. Let us suppose it happened.

Mr. ROHRABACHER. What a scientist's responsibility is, the same as a journalist, you know, I am a professional journalist. That is what I did for a living. I was a writer. I was not a lawyer, which lawyers can justify just about anything, but—

Mr. BAIRD. But journalists are not biased. We know that.

Mr. ROHRABACHER. No. Journalists—correct. Okay. Here is the answer. If a scientist has done his, has done research, has come to a conclusion, he should express that in any way that he can as what he believes with his credentials, understanding there are other scientists who disagree with him. This is not where one claims I have discovered truth, and all of a sudden everybody else has to shut up. And what we have got here is you have some people who are very strong political positions as well as being scientists.

Mr. BAIRD. But let me reclaim just to ask this question.

Mr. ROHRABACHER. Sure.

Mr. BAIRD. What if your supervisor says you cannot publish your data so that it can enter the marketplace of ideas and debate? What is your—

Mr. ROHRABACHER. Well, obviously, I believe that anything that has, as you say, gone through the peer review process, no one should prevent things from being discussed. In fact, I have just, I am the strong advocate of having everything discussed, and I think there has been much more censorship on the other side of this issue than the one you are getting at. If you can give me some examples of that, I will be happy to sign on with you and say I am very concerned about this scientist, this scientist, and this scientist who are permitted to publish. Now—

Mr. BAIRD. Well, let me return if I may to the panel to hear the converse.

Mr. ROHRABACHER. What element of it, to answer your question, the thing is—

Mr. ROTHMAN. Mr. Rohrabacher.

Mr. ROHRABACHER. Yes.

Mr. ROTHMAN. It is Mr. Baird's, Dr. Baird's time.

Mr. ROHRABACHER. Let me—

Mr. ROTHMAN. It is Dr. Baird's time.

Mr. BAIRD. You and I—Dana, we will have time. We will get together.

Mr. ROTHMAN. It is Dr. Baird's time.

Mr. BAIRD. I will give you 30 seconds.

Mr. ROHRABACHER. Okay. No. Even five seconds. It is just so, we are not talking about whether or not—

Mr. BAIRD. You have 26 seconds.

Mr. ROHRABACHER. Hold on now. So we are basically saying that he wasn't allowed to publish in the name of—you can't as a scientist publish in the name of NASA, but you can publish. NASA doesn't have to say we are publishing this as our opinion.

Mr. BAIRD. I am aware of case—I will reclaim my time and tell you I am aware of cases where people were told they could not put their name on a study, period, because they were within the employ of a federal agency, even if the study was published not under the official aegis of the agency but merely the fact that you were employed by that agency extracted your name from publication. I am personally aware of that case.

About the reverse where the moral conundrum, ethical conundrum applies to the supervisor who recognizes flawed data but now the Congress has put that person in a position, if we pass this law into law, that they can't retract the study before it becomes published without running into some significant problems.

Dr. MCCARTHY. There are many laboratories in which it is the procedure for all staff to have their reports, their professional papers reviewed within the laboratory. That happens in research in universities, happens in research centers all over. So it is not unusual.

If even, if without that, or if one attempted to go around that or even if that process were followed and the report were published, peer reviewed and published, and were found to have errors, then, of course, it is incumbent upon anyone who discovers those errors to call attention to them with letters to the editor or perhaps re-

tractions of the paper. I think one distinction to be made here, though, is that you are talking about a case in which the results are clearly derived from research. They are, you mentioned data, and I think it is somewhat different from what we have seen in many of the cases that have been discussed here, in which scientists are making statements which are judged by people within the Administration to have policy implications. And for that reason they have run into difficulty.

Mr. BAIRD. Yeah. My problem is if somebody's putting forward data that will lead to policy implications, it relates to the aforementioned issue, which we will talk about separately, but and we have put, in Congress, the supervisor in an untenable position where they can't say, this shouldn't go to press because it is flawed because one it has been accepted for publication, under the amendment we passed last week in this Congress—

Dr. MCCARTHY. Uh-huh.

Mr. BAIRD.—we put those supervisor, I think, in an unethical position, and I intend to address this before it goes to conference.

Dr. MCCARTHY. Well, if it is accepted for publication, let us say in a peer review journal, because of oversight in the review process, and that happens, as you know, all the time, then there are corrective measures. There are letters to the editor, there are subsequent papers.

Mr. BAIRD. Sure, but you know that is like a retraction in journalism. You know once the study is published, it gets quoted 100,000 times. The retractions are minimal, and I will tell you that some journals substantially restrict and put much greater scrutiny on the retractions, I know this personally, than they do on the initial publication.

Dr. MCCARTHY. Certainly retractions but I think letters are often a very powerful way of dealing with that.

Mr. ROTHMAN. I thank the gentleman. I am going to take five minutes for questions.

POLITICAL PRESSURE ON SCIENTISTS

Can the panel give me at least three examples of the kind of censorship or problems in this Administration that our colleague from California suggests has taken or took place under the previous Administration?

Mr. MAASSARANI. If I understand correctly, Mr. Rohrabacher was referring to grant decisions allowing funding of certain research proposals, as well as more recently he talked about, or the question that was under debate now, was whether there was a publication that had been—

Mr. ROTHMAN. No, no, no. Just censorship—

Mr. MAASSARANI. Okay.

Mr. ROTHMAN.—or undue influence, the kind of things you were talking about in general terms in each of your respective testimonies. At least three of you.

Mr. MAASSARANI. Sure. I will give you an anecdote that comes from a confidential source of one of the agencies. Just find my notes real quick.

This was a person that was positioned in the public affairs office of the agency. The predecessor for this person had been begged to

resign from this, to be reassigned from this position to another one because of the pressure that was associated with the position. Basically they found themselves between the political appointees within the public affairs office and the scientists themselves and the information they were trying to get out. This person was told regarding one of the scientists, you make him be quiet. Get that guy to stop speaking to the public. It is your job. I cannot believe you cannot control that person. This person has, and I quote, was summoned to their political appointee's supervisor's office at times where their discussion would take place behind closed doors and involved White House offices such as the Office of Science and Technology Policy.

This person was to inform the superiors of any interview requests from major news outlets that concerned climate change, and those would be rerouted through——

Mr. ROTHMAN. That is one individual. Do we have any other examples that either, anyone wishes to speak about?

Dr. MCCARTHY. I can refer to examples which are in the testimony from our report, *Atmospheric Pressure*, in which 21 percent of the respondents, they personally experienced pressure to eliminate the words, climate change or global warming or other similar terms from a variety of communications. Fifteen percent of the respondents said they personally experienced changes or edits during review that changed the meaning of scientific findings, and then in all 58 percent of the scientists said they had personally experienced at least one incident of some form of interference within the last five years, a total of 435 incidents of political interference. And these are documented in our report.

Mr. ROTHMAN. Mr. Rampton, do you have any comment on this or——

Mr. RAMPTON. I think I will pass if that is okay.

Mr. ROTHMAN. Okay. And Mr. Kueter, since I see this hearing is among other things but most importantly what role the Congress should take in trying to prevent intimidation, censorship of scientists within the Federal Government by members of the Federal Government, do you have any examples about any conduct during this Administration that you found were examples of censorship on one, cutting one way or the other?

Mr. KUETER. We haven't analyzed the behavior of this particular Administration, but the book that I referenced in my testimony, *Politicizing Science*, documents at least four different cases of where there has been evidence of selective use of results over misinterpretation of those findings or blatant interference in the conduct of experiments and in the behavior of past Administrations.

Mr. ROTHMAN. Okay. So for the last seven years, you haven't studied the actions of what has gone on in our Federal Government for the last six years and change?

Mr. KUETER. Not in terms of trying to conduct the kinds of surveys that these gentlemen are talking about.

Mr. ROTHMAN. Okay. So you are more of a historian then. You can tell us what happened in the last Administration but not the last six years?

Mr. KUETER. I am a public policy analyst. That is, our role is to be——

Mr. ROTHMAN. Okay.

Mr. KUETER.—involved in the contemporary debate. We have published this book, though that did take a more historical view of the questions that you raised.

Mr. ROTHMAN. Fair enough. I am going to save my 14 seconds unless there is another comment, Mr. Maassarani.

Mr. MAASSARANI. I just wanted to say that our report is replete with the kind of examples that you are asking for.

Mr. ROHRABACHER. Mr. Chairman.

Mr. ROTHMAN. I am now going to recognize our colleague and friend from California, Mr. Rohrabacher, for five minutes.

Mr. ROHRABACHER. Well, thank you very much. I am dismayed that when we ask you for specific examples that you couldn't come up with any. I mean, you are coming up with an unnamed source and coming up—give me a couple names out of there and say Dr. so and so said that on this occasion I had a scientific study that I was not permitted to publish or was not permitted to submit for people to look at. And give me the examples, and I am ready to take a look. Give me three examples. If you couldn't do it just a minute ago, send them to my office. I will be happy to examine it. The answers you gave were, obviously were not satisfactory.

Mr. ROTHMAN. Will the gentleman yield for a question?

Mr. ROHRABACHER. Sure. Sure.

Mr. ROTHMAN. When the panelists said that 21 percent and three out of five responded that they experienced some censorship or pressure to change their findings or their findings were changed without prior notice, does the gentleman say that, deny that those findings or reports are correct?

Mr. ROHRABACHER. Yeah, I do, because I will suggest to you that when you take polls among people, how you ask a question and then how you analyze the answer makes all the difference in the world. And whether or not that person, for example, if someone says, do you think that there should be more research money on global warming, and the scientist says, why, yes, I do, and I think it is really discriminatory against our group of people who are responsible for researching global warming, the fact that they don't have a higher budget. Well, everybody wants a higher budget, and that analysis, giving him as an example, as see, here is a guy who is repressed. Well, this may be what we are having here, but I will be very happy, by the way, please submit to me, and I will give you a chance to get me the exact, if you have a specific example, give me three specific examples. I will be open-minded about it. And, again, I agree with my friend, this should be an open debate. My major argument today is not that we in some way should overlook if there has been some suppression of the argument on, by this Administration, we should overlook that. I would never suggest that. I am suggesting that we have suppression of this debate on the other side.

And, again, if you have evidence that they are doing something wrong, specifically, rather than giving me some polling or some unnamed source who can say anything because he is anonymous, okay. Go right ahead. If you got some examples, I will, write them down.

Mr. MAASSARANI. Sure. Let me just say that they are unnamed for a reason, and a number of our sources are unnamed, and unfortunately, I can't disclose their——

Mr. ROHRABACHER. Well, the point is that we have been, like the Administration has been here seven years or six years now total, and if there were people who were in there facing this, there would be enough people on the outside to find someone who has been willing to speak up without fear of losing their job. There is always, you know, people always say things anonymously and say, well, I just can't say it publicly because I will lose my job. That is not a source to base judgments on. I can tell you that right now. There is a lot of other people on the outside who, if there was that repression going on, could come out publicly and say, when I was there, this is what happened.

Mr. MAASSARANI. Well, if it is very important to you, I can perhaps arrange for you to contact that source if you can ensure their——

Mr. ROHRABACHER. No, no.

Mr. MAASSARANI.—confidentiality as well.

Mr. ROHRABACHER. Give me the names of several people. Give me the names——

Mr. MAASSARANI. Yes. I am ready to do so, sir, right now.

Mr. ROHRABACHER.—of three people. Do it on the record for Pete's sake.

Mr. MAASSARANI. Tom Knutson is a scientist who has had a media request denial.

Mr. ROHRABACHER. A media request denial.

Mr. MAASSARANI. Denied.

Mr. ROHRABACHER. Okay.

Mr. MAASSARANI. On three occasions.

Mr. ROHRABACHER. Has he had other requests that were granted?

Mr. MAASSARANI. Yes.

Mr. ROHRABACHER. Oh, there you go. Okay.

Mr. MAASSARANI. So some requests are okay and others are not.

Mr. ROHRABACHER. Okay.

Mr. MAASSARANI. Weatherald has had four press releases squashed.

Mr. ROHRABACHER. Okay.

Mr. MAASSARANI. And Christopher Millie, Weatherald is also from NOAA, and Christopher Millie from USGS——

Mr. ROHRABACHER. Okay.

Mr. MAASSARANI.—has had two press releases squashed.

Mr. ROHRABACHER. Okay. So we have——

Mr. MAASSARANI. Three examples.

Mr. ROHRABACHER.—so you are suggesting that because someone is not permitted to send out a press release, now you are saying a press release. With the name of the governmental agency on top of the press release? They were denied that? And that is an example of suppression?

Mr. MAASSARANI. When it is research that this scientist——

Mr. ROHRABACHER. No, that is not suppression at all. If someone is, wants to send his research out to make sure that other sci-

entists know about it, becomes part of the public debate, that is a lot different than sending out press releases.

Mr. MAASSARANI. These press releases are for the media to pick up on important research conducted by federal scientists.

Mr. ROHRABACHER. Important research as, according to that researcher. There may be other scientists who disagree totally with that position. Now, you want to, you think that the Government should be sending out dueling press releases? Is that what it is?

Mr. MAASSARANI. No. These are press releases that mark the release of studies in peer-reviewed journals.

Mr. ROHRABACHER. Well, that is what I am——

Mr. MAASSARANI. Each one of these press releases——

Mr. ROHRABACHER. Okay.

Mr. MAASSARANI.—I am referring to.

Mr. ROHRABACHER. And they were released in the peer, in the journals?

Mr. MAASSARANI. Yes. They were——

Mr. ROHRABACHER. Oh. Okay.

Mr. MAASSARANI.—published in the journals.

Mr. ROHRABACHER. So here we have——

Mr. MAASSARANI. So other scientists found out about it but not the media.

Mr. ROHRABACHER. So you are ignoring——

Mr. MAASSARANI. Or the public.

Mr. ROHRABACHER.—the fact that the lead scientist from the Department of Energy was sacked when he came in by Al Gore and the fact that they, that a guy who can actually publish his findings in a peer-review journal is being repressed because he can't send out a press release with the name of the organization on the top.

Mr. ROTHMAN. The distinguished gentleman's time is, for this round, concluded.

Mr. ROHRABACHER. You may have an example for us that you might want to put on the record. I mean, Dr. McCarthy.

Mr. ROTHMAN. While I think that any active injustice is something to be criticized, condemned, and fixed, those that are farther back in history may be ones we cannot correct, but those acts of injustice or bad policy or bad behavior by people who are still in office I think are more relevant to this committee since we have it within our power as a coequal branch to check and balance any abuses by any other branch.

Would any of you gentlemen like to talk about in more detail the meaning of my colleague and friend from California talks about or implies some insignificance to the squashing of a press release? First of all, is that all we are talking about, squashing of press releases, and what is the significance of these, of this, of these restrictions? Dr. McCarthy.

Mr. MCCARTHY. No. We are talking about much more than the squashing of press releases. I gave you some examples where people were told they could not use the words, "climate change," "global warming," and the like. I will report documents with names, 70 such sources. You can check those, and I think to somehow make reference to someone who was fired some years ago and circumstances that we can't possibly reconstruct at this point or to suggest that a Dutch and Italian scientist were not getting their

grants, I mean, my last four grant proposals were turned down. I am batting about one out of five. I have never suspected that there is some political motivation. I am not writing proposals that deal specifically with this subject. No one has ever told me, any of the federal agencies that if I did or didn't funding would be different.

I think you need to also look at how research funding works, and it is a review process that involves experts in the community. The decisions are made by program managers and study panels. I have worked extensively in such review analyses of panels of the National Science Foundation. I cannot think of any time in which there was ever any policy by the directorate of the foundation or the foundation in general or something that was thought maybe coming on high that said this is the kind of research we should be supporting or the kind of research we should not be supporting.

And perhaps I could explain that the way scientists get their work supported is not to write a proposal saying I want to go out and prove that something that people think is right is right. You get it funded because you say I think there is something wrong with our conventional position, and I am going to prove it. And that is what gets funded.

Mr. ROTHMAN. Doctor, is there any evidence, or any member of the panel, that there was a concerted effort or a conspiracy or a matter of agreed-upon policy by, at the highest levels of the Administration to confine comments by scientists in federal employ or to censor their work? I mean, how high up does it go, or was it, were these the acts of renegade members of the Bush Administration?

Mr. Maassarani.

Mr. MAASSARANI. This depends a little bit on how you would define a conspiracy. I think we do have high-level signals as is documented in the report that comes down. We can only infer how systematic these signals are and how much their affect has been. It definitely seems that White House offices are sending these signals through political appointees at the agencies and public affairs offices to—and in some very clear instances to suppress certain communications by scientists. I am not prepared to call this a conspiracy with everyone involved at the high levels and the low levels against the scientists, but certainly there is something of concern going on.

Mr. ROTHMAN. Mr. Kueter, can you comment, although you haven't made a study of the last six years, do you have an opinion on this?

Mr. KUETER. Well, your colleagues in another committee in this Congress posted the deposition of Phil Cooney to their website as a product of a hearing that they had where he participated a few weeks ago. I would suggest you take time to read that lengthy document, because I think it reveals quite plainly that the proposition that has been offered doesn't exist in the sense of there being high-level efforts in a coordinated attempt to suppress scientific discussion of climate issues.

Mr. ROTHMAN. But do you have any view as to, I hear you on the high level, the lack of high-level coordinated policy on this matter, but do you have any information, evidence, or opinion as to whether these examples cited by these three other gentlemen did not take place in the Bush Administration in the last six years?

Mr. KUETER. I have no basis to judge the credibility of those claims, having not reviewed their studies in any great detail for that purpose.

Mr. ROTHMAN. I thank you. I think we have done it, and let me say this. I am going to be looking forward to reading the recommendations in each and every one of you gentlemen on how to prevent the intimidation, censorship, or mischaracterization of scientific findings by federally-employed scientists by members of the Federal Government.

I want to thank the witnesses again and under the rules of the Committee the record will be held open for two weeks for Members to submit any additional questions they might have to the witnesses. And if there is no objection, the witnesses are dismissed with our gratitude, and the hearing is adjourned.

[Whereupon, at 3:55 p.m., the Subcommittee was adjourned.]

Appendix 1:

ANSWERS TO POST-HEARING QUESTIONS

ANSWERS TO POST-HEARING QUESTIONS

Responses by Sheldon Rampton, Research Director, Center for Media and Democracy, Madison, Wisconsin; Co-author, Trust Us We're Experts: How Industry Manipulates Science and Gambles With Your Future

Questions submitted by Chairman Brad Miller

Q1. Why should the Congress care that an industry or major multinational corporation funds a campaign of public relations to spin science? Is this more than just an exercise of 1st Amendment rights?

A1. In the case of the tobacco industry, courts have found that the industry's efforts to spin science reached the level of actual fraud which violated the law. It is one thing to publicly espouse a particular interpretation of scientific evidence when the scientific community itself is still divided over differing interpretations. It is another thing entirely to manufacture the APPEARANCE of doubt when the scientific evidence has become overwhelming. This was the case with the link between smoking and lung cancer, and has now become the case with respect to the link between human-produced greenhouse gas emissions and global warming. The tobacco industry's own internal documents show that industry executives did understand the true state of the scientific evidence, making its public statements to the contrary deliberate deceptions. The same thing appears to be true with respect to the current state of knowledge regarding global warming, and there are numerous examples of companies (such as the pharmaceutical industry) deliberately suppressing the publication of data that conflicts with their marketing claims about the safety and efficacy of their products. These actions cannot reasonably be interpreted as merely the free expression of opinion. They constitute deliberate deception of the public and should not be tolerated.

Corporations are not allowed to deliberately deceive their investors by withholding or falsifying information about business losses, pending lawsuits or other facts which have a bearing on assessing the risks of investing in them. I see no reason why they should be allowed to deliberately deceive the general public by withholding or falsifying information about the risks which their activities pose to the environment or public health.

Beyond the question of whether deliberate deception is involved, I think the public also has a right to know who is funding the science which is used as the basis for decisions that affect the public.

Companies certainly have the right (and indeed, a responsibility) to fund research into the safety and efficacy of their products. This funding does not always create bias, but it is a strong indicator of potential bias. Numerous studies have found that research funded by a company which makes a particular product tends to exaggerate the benefits and downplay the hazards associated with that product. This doesn't necessarily reflect fraud on the part of the company or the researcher. It may simply mean that they are genuinely excited about the positive potential of the product and have an unconscious bias that influences their conclusions. I think it is problematic, however, when industry-funded research is presented to the public without full and prominent disclosure as to its source of funding.

When the public is told that eating oat bran lowers cholesterol, it should also be informed that the research reaching that conclusion was sponsored by Quaker Oats. It is entitled to know that the "Princeton Dental Resource Center," which claimed that eating chocolate actually reduced cavities, was financed by the M&M/Mars candy company and was not a part of Princeton University.

Q2. Can you shed light on how we should think about the differences among non-profit public interest organizations that hire scientists and engage in public information campaigns? Some argue that since there are groups on all side of all issues, with funding behind them, it makes no difference whether the donors are public-minded citizens or corporations with a material interest in a particular policy path? Is there any difference in your mind between those two kinds of cases?

A2. I don't think it is true to suggest that comparable funding is available to groups "on all side of all issues." Aggregate data about the funding sources of science is hard to come by, but we can get a good idea of the resources available to various groups by looking at data on political giving. According to the Center for Public Integrity's database of political giving, for example, the oil and gas industry gave \$19,090,042 to national political candidates during the 2006 election cycle and spend \$72,492,544 on lobbying. By comparison, environmental groups gave only \$514,759

to electoral candidates and spent \$7,687,264. That's a 37-to-1 ratio in political campaign giving, and more than a 9-to-1 ratio in spending on lobbying. The National Beer Wholesalers Association alone gave \$2,946,500, and that's only part of the alcoholic beverages industry. I haven't been able to find statistics on the political giving by groups concerned about the problems related to alcohol consumption such as Mothers Against Drunk Driving, but I'm sure it is minuscule by comparison. The sum total spent on lobbying by all single-issue ideological groups combined—pro-choice advocates, anti-abortionists, senior citizens, and a variety of other groups—was \$113 million. By contrast, the health care industry alone spent \$338,441,211, and corporate-sector lobbying for all industries combined was more than \$2.3 billion.

As these figures suggest, industry groups have much more money to spend on shaping public opinion and public policy than non-profit public interest organizations, and this applies as well with respect to hiring of scientists for public information campaigns.

Environmental groups and other issue-advocacy organizations certainly do hire scientists and make scientific arguments to promote their policy goals, and it is certainly fair to expect that their scientists are as susceptible to bias as industry scientists.

However, these groups have a lot less money with which to promote biased science than the corporate sector. As a practical matter, the biases that we need to worry about the most are the biases held by people who have the money and power to influence policies.

Question submitted by Representative F. James Sensenbrenner Jr.

Q1. In your testimony you illustrate how industry influences the media through surrogate organizations. Have you looked into whether or not advocacy organizations use the same techniques?

A1. As I stated in my answer to the second question by Chairman Miller, the scientific claims made by advocacy organizations should be greeted with the same expectations of tendentious bias that should be applied to claims made by industry-funded scientists. However, the specific use of "surrogates"—by which I mean the use of scientists as third-party spokespersons without disclosure of their industry sponsorship—is something that advocacy organizations rarely if ever do. I cannot think of a single instance where a group such as Greenpeace or the Center for Science in the Public Interest or the National Right to Life Committee or the National Rifle Association has sponsored a scientist to act as their spokesperson while concealing that sponsorship. To the contrary, most advocacy organizations actively publicize their relationship with the scientists in their employ.

The reason for this is simple: Advocacy organizations have no motive to conceal their sponsorship of scientists. A typical advocacy organization seeks funding from the public, and it wants potential donors to believe that it is doing a great deal and accomplishing a lot with their contributions. If a group like Greenpeace hires a scientist to produce a report on global warming, therefore, it has a strong incentive to inform people that it has done so. Moreover, there is no advantage to concealment. A scientist's affiliation with a group like Greenpeace does not diminish the credibility of that scientist's claims in the eyes of the general public (and especially not in the eyes of potential Greenpeace donors) in the same way that a scientist's credibility may be diminished if he is known to be working for ExxonMobil.

There is, however, a related problem of third-party surrogacy related to advocacy organizations. Many think tanks and advocacy groups are themselves used as surrogates for undisclosed interests, in the same way that individual scientists are used for this purpose. For example, the Philip Morris tobacco company created a group called The Advancement of Sound Science Coalition (TASSC) to publicly dispute the science linking secondhand cigarette smoke to lung cancer. The company went to great lengths to conceal the fact that TASSC was created by one of its public relations firms and funded almost entirely with corporate grants. There are many groups of this type—the "American Council on Science and Health," "Citizens for the Integrity of Science," or "Consumer Alert"—which receive most of their funding from corporate sponsors rather than individual donors while declining to disclose the identity of their actual funders.

My organization, the Center for Media and Democracy, has long advocated that nonprofit organizations which receive tax-exempt status should be required, as a condition for tax exemption, to disclose a list of all of their significant institutional funders.

Just as the public has a right to know who is funding the scientific research that is used to influence public opinion and public policy, the public also ought to know who is funding the work of other groups that seek to influence them.

ANSWERS TO POST-HEARING QUESTIONS

Responses by James J. McCarthy, Alexander Agassiz Professor of Biological Oceanography, Harvard University; Board Member, Union of Concerned Scientists

Questions submitted by Chairman Brad Miller

Q1. Dr. McCarthy, in January 2007, a spokesman for ExxonMobil said the company had stopped funding climate skeptic organizations such as the Competitiveness Enterprise Institute. Do you know if ExxonMobil is still funding a campaign of climate science doubt? How could we verify what role they are playing?

A1. UCS's January 2007 Report, *Smoke, Mirrors and Hot Air*, found that between 1998 and 2005, ExxonMobil funneled close to \$16 million to 43 groups working to manufacture uncertainty around global warming science. Faced with public outrage over its cynical campaign to delay action on global warming, ExxonMobil has launched a PR campaign aimed at softening its image as a climate skeptic. The company finally acknowledges the global warming threat and has cut funding for some of the most egregious climate contrarians groups, including the Competitive Enterprise Institute.

However, Exxon's 2006 World Giving Report reveals that twenty four of the groups identified in the UCS report received an additional \$1.6 million in funding in 2006. Four groups that received continued funding in 2006 have consistently been at the center of ExxonMobil's fight against action on global warming: The Heartland Institute, George C. Marshall Institute, American Legislative Exchange Council and Frontiers of Freedom. A leaked 1998 American Petroleum Institute memo linked these groups to the *Global Climate Science Communications Plan*, a multi-year, multi-million dollar strategy to manufacture uncertainty around the science of global warming. Total 2006 funding to these groups alone was \$421,000 with a sum of over \$3.6 million since 1998.

Q2. In his written testimony, Mr. Kueter charges that groups like UCS and the British Royal Society are "seeking to silence honest debate and discussion of our most challenging environmental issue—climate change." He also writes that "the censorship of voices that challenge and provoke is antithetical to liberty and contrary to the traditions and values of free societies." Is there an effort to silence honest debate? Dr. McCarthy, do you want to comment on these claims?

A2. UCS supports "honest debate and discussion of our most challenging environmental issue—climate change." The key word is "honest" as some individuals have a long history of invoking outdated publications that have been subsequently overturned by many additional peer-reviewed papers that have pointed out the flaws in the original evidence, methods, etc. This is "cherry picking" at its most dishonest. UCS supports open dialogue and full discussion of all evidence-based science that represents the current state of knowledge. In other words, the UCS is totally committed to the antithesis of censorship and the exact opposite of silencing honest scientific debate.

Q3. Dr. McCarthy, in your view does the Marshall Institute do scientific work? How does it compare to the kind of work done by research scientists in universities or even the work done by a body such as the IPCC?

A3. University research findings typically result in a publication with several research authors that is peer-reviewed by a few external experts. Any errors in these publications typically become apparent through formal "comment" and "reply" publications in the original journal. The evaluation process occurs further when subsequent articles are published in other respected journals that point out the errors or confirm the original hypothesis. The IPCC effectively re-reviews the published climate science on a more comprehensive scale. For example, the Working Group I contribution to the IPCC in 2007 received and fully considered around 30,000 review comments.

The IPCC's technical reports derive their credibility principally from a, transparent, and iterative peer review process that is far more extensive than that associated with scientific journals. This is due to the number of reviewers, the breadth of their disciplinary backgrounds and scientific perspectives, and the inclusion of independent "review editors" who certify that all comments have been fairly considered and appropriately resolved by the authors. Furthermore, according to IPCC principles, lead authors are "required to record views in the text which are scientifically or technically valid, even if they cannot be reconciled with a consensus view." Finally, it is important to note that the authors of IPCC reports are nominated by

national governments, and the final IPCC reports are approved by delegations from more than one hundred nations (including the U.S.A. and all other industrialized nations).

Several organizations, some non-profit and others with links to commercial interests, endeavor to translate climate science into forms that are more accessible to the general public and the policy community. When a report from any such group, including the George C. Marshall Institute, appears to provide a new interpretation or synthesis of findings (since most of these organizations do not conduct original scientific research) it is important to ask who authored the report, by whom was it reviewed *and* what are these individuals' credentials. If authors and reviewers are not named, if the process by which the report was written and reviewed seems opaque or if the authors of a climate report do not have the stature of IPCC authors, then one needs to be cautious, especially if the intent of the report is to challenge conventional science.

Q4. Dr. McCarthy, some people seem to have the impression that the IPCC and various National Academy statements reflect "consensus" views that ignore the work of scientists who hold other views. Are they correct?

A4. The word "consensus" is often invoked, and sometimes questioned, when speaking of IPCC reports. In fact, there are two arenas in which a consensus needs to be reached in the production of IPCC assessments; one is the meeting of the entire IPCC, in which unanimity is sought among government representatives. Even though such consensus is not required (countries are free to register their formal dissent), agreement has been reached on all documents and "Summary for Policy-makers" (SPMs) to date—a particularly impressive fact.

Consensus is also sought among the scientists writing each chapter of the technical reports. Because it would be clearly unrealistic to aim for unanimous agreement on every aspect of the report, the goal is to have all of the working group's authors agree that each side of the scientific debate has been represented fairly.

IPCC ensures that the scientific credibility and political legitimacy of its reports represents fairly the range of scientific understanding of climate change. To this end, the IPCC provides several channels for input from experts along the entire spectrum of scientific views, including those of sturged scientists who do not expect large future anthropogenic effects on climate.

First, accredited NGOs from all sides of the issue are welcome as observers at the opening plenary session and some other sessions over the course of the report production cycle. In addition, well-known contrarians can and do become contributing authors by submitting material to lead authors, and play advisory roles for their governments by working with government representatives to revise and approve the final SPMs.¹

The presence of climate change experts from industry and environmental organizations in the assessment process also illustrates the IPCC's desire to seek input from outside traditional research institutions. Industry examples have included representatives from the Electric Power Research Institute and ExxonMobil. Environmental examples have included representatives from Environmental Defense, the Natural Resources Defense Council, and others all over the world.

Climate contrarians frequently claim that the IPCC produces politically motivated reports that show only one side of the issues.² Given the many stages at which experts from across the political and scientific spectrum are included in the process, however, this is a difficult position to defend.

Questions submitted by Representative F. James Sensenbrenner Jr.

Q1. Your organization receives a substantial amount of money from private foundations.

- a. Does that money come with the strings attached?*
- b. Do you think ExxonMobil's contributions to Stanford, Yale, Harvard, Princeton, MIT, Columbia, the University of Texas, and Carnegie Mellon came with strings attached?*
- c. Do you think those contributions influence those institution's work?*
- d. Why do you think similar contributions will impact the organizations in your report?*

¹Edwards, P., and S. Schneider. 1997. Climate change: Broad consensus or "scientific cleansing"? *Ecofables/Ecoscience* 1:3–9.

²Masood, E. 1996. Head of climate group rejects claims of political influence. *Nature* 381:455.

A1. The majority of grants to the Union of Concerned Scientists from private foundations are designated for specific projects as described in the grant proposal. Most importantly, the genesis for the project lies with UCS, not the foundation. UCS writes proposals for various projects which are funded only if the foundation decides the proposal is in line with its priorities.

In the UCS report *Smoke, Mirrors and Hot Air* there is a comparison between the large donations by ExxonMobil to university research compared to the relatively smaller proportion given to organizations that have historically misrepresented scientific understanding about climate change. For example the report notes:

“In its most significant effort of this kind, ExxonMobil has pledged \$100 million over ten years to help underwrite Stanford University’s Global Climate and Energy Project. According to the program’s literature, the effort seeks to develop new energy technologies that will permit the development of global energy systems with significantly lower global warming emissions.”

The UCS report does not express any concerns about the value or independence of the work done by these academic institutions. Similarly, the report does not directly claim that ExxonMobil’s contributions to organizations that have a record of misrepresenting the current knowledge about the science of climate change were an attempt to influence the views or writings of those groups. Rather, our claim is that ExxonMobil’s funding of these groups serves to amplify the misleading messages of these groups and confuses the public on the climate issue.

Q2. *It is important to separate scientific interference from policy guidance. You included the following question in your survey: “Question 6, The U.S. Government has done a good job funding climate change research.” How does a budget question equate to scientific interference?*

A2. Our survey was designed to obtain information about the general work environment for U.S. Government climate scientists, and as such, not every question addressed the problem of direct political interference in the work of scientists. Reducing funding for a particular line of research does not necessarily equate to direct political interference in science, and this question was not asked with that inference in mind.

However, the results of this question (more than half of the respondents disagreed that the U.S. Government has done a good job funding climate change research) and the large number of essay responses on the topic of funding may be taken as supporting evidence for a funding crisis in federal climate science. When adjusted for inflation, federal funding for climate science has fallen since the mid-1990s.³ A 2005 report by the National Research Council (NRC)’s Committee on Earth Science and Applications from Space concluded that our system of Earth-observation satellites is at “risk of collapse” and is jeopardized by delays and cancellations of several planned NASA satellite missions.⁴

In a statement earlier this year, the Board of Directors of the American Association for the Advancement of Science (AAAS) echoed the concerns of the NRC committee and called upon Congress and the administration to implement the NRC recommendations “for restoring U.S. capabilities in Earth observations from space to acceptable levels.”⁵

High-quality data about our climate is the crucial first ingredient to understanding the science of climate change and crafting effective policies for dealing with the threat.

³American Association for the Advancement of Science. 2007. Climate Change Science Program Budget, by Agency. Online at <http://www.aaas.org/spp/rd/ccsp07cht.pdf>

⁴National Research Council, Committee on Earth Science and Applications from Space. 2005. *Earth Science and Applications from Space: Urgent Needs and Opportunities to Serve the Nation*. Washington, DC: The National Academies Press.

⁵AAAS Board Statement on The Crisis in Earth Observation from Space. April 28, 2007. Online at <http://www.aaas.org/eos>

ANSWERS TO POST-HEARING QUESTIONS

Responses by Tarek F. Maassarani, Staff Attorney, Government Accountability Project

Questions submitted by Chairman Brad Miller

Q1. Mr. Maassarani, could you elaborate on your observation that media policies were often driven from offices in the White House complex?

A1. Most prominently, our report detailed numerous instances in which White House executive offices are involved in the editing and clearance of scientific reports. To what extent the White House has interfered with media communications, and in particular shaped media policies, is less concretely established. Our report documents several examples where the White House was connected to practices that restricted media communications. Consider, for example, an e-mail dated June 13, 2005, in which National Oceanic and Atmospheric Administration (NOAA) public affairs officer Kent Laborde tells a NOAA senior scientist Venkatachalam Ramaswamy:

CEQ [Counsel on Environmental Quality] and OSTP [Office of Science and Technology Policy] have given the green light for the interview with Ram. They had me call Juliet [Eilperin, the reporter who requested the interview] to find out more specifics. She will be asking the following:

- what research are you doing with climate change
- what research has been encouraged or discouraged by the administration
- what interaction has he had with the administration
- does he have free reign to conduct the research her [sic] wants to do

I told Juliette [sic] that he feels comfortable to comment only on science and does not want to loose [sic] his scientific objectivity by addressing policy/political [sic] questions. She said since he is not a policy-maker, she wouldn't ask policy questions.

Michele [St. Martin of CEQ] wants me to monitor the call and report back to her when it's done. . .

Similarly, an anonymous public affairs officer at NASA told us how he sat in on phone calls made between public affairs headquarters and OSTP discussing control of certain scientists' media exposure.

Such incidents compounded by the lack of transparent decision-making above the heads of scientists and mid-and high-level public affairs staff suggest that the chain of command reaches up to the White House for media communications dealing with sensitive science. Nonetheless, with the exception of the Climate Change Science Program (CCSP), this high-level involvement in routine media communications was never stated or put forward as official policy—as distinct from practice. In the case of the CCSP, which has significant representation from White House offices on its communications working group, it has been clearly stated as a matter of policy that CCSP staff is not authorized to talk to the press. Rather, media inquiries are referred to NOAA or the CEQ chairman.

Q2. In your review of e-mails and interviews with scientists, do you always see the hand of the White House—either the President's Council on Environmental Quality or the Office of Science and Technology Policy—behind climate change suppression efforts?

A2. As discussed above, there is limited direct evidence of White House involvement with climate change suppression efforts in our FOIA and interview record. What we have found however suggests that this is not because these efforts do not exist, but because they are opaque and evasive. White House involvement seems to occur by telephone or in person, to which only a select few individuals within the agency are privy. Although outgoing e-mail traffic from the agencies suggested White House involvement, our FOIA obtained few if any e-mails from the executive offices. As you are well aware, Waxman's staff has had similar difficulties obtaining information about White House communications with its agencies.

ANSWERS TO POST-HEARING QUESTIONS

Responses by Jeff Kueter, President, George C. Marshall Institute

Questions submitted by Chairman Brad Miller

Q1. Mr. Kueter, when did the Marshall Institute receive its last funding from ExxonMobil or its foundation?

A1. We received support from ExxonMobil in 2006.

Q2. Do you currently have a financial relationship with Exxon Mobil, its foundation or any of its public relations firms to fund work on climate science or any other issue.

A2. We have submitted renewal proposals to ExxonMobil in support of our climate change and energy policy programs for 2007.

Q3. How did the Marshall Institute become aware that ExxonMobil was funding policy organizations to support a climate science work? funding from ExxonMobil or its foundation?

A3. The Marshall Institute's climate program began in 1989. The Institute did not begin accepting corporate contributions until 1999 even though the Institute was accused of being "corporate financed." A statement by a past Institute Executive Director explaining this change in policy is available at <http://www.marshall.org/article.php?id=17>, which is a reprint of an op-ed appearing in the *Wall Street Journal* on July 2, 1997. I was not employed with the Marshall Institute during this period and am not aware of the circumstances surrounding the receipt of the first grant from ExxonMobil. A review of the available records shows that the Institute prepared a grant request to the Exxon Education Foundation for general operations support in August 1999.

Q4. Have you or any other figures associated with the Marshall Institute ever participated in a meeting or conference involving Exxon Mobil representatives or representatives of its foundation to discuss how to carry out your climate science work or to coordinate that work among other organizations funded by ExxonMobil?

A4. I review the substance of our past activities and our plans for the future at an annual meeting with a designated representative of ExxonMobil. This meeting is held in conjunction with the submission of our annual report on activities and request for renewal. Such meetings are common practice. Our programs and activities are designed and implemented independently of any supporter or interest. Subsequently, the Institute's climate program is independently reviewed and approved by our board of directors. The Institute's Chief Executive Officer, William O'Keefe, has an acknowledged private business relationship with ExxonMobil. We participate in numerous meetings and conferences discussing climate change, some of which involve sponsors or potential sponsors.

Questions Submitted by Representative F. James Sensenbrenner Jr.

Q1. In 2005 the Marshall Institute reported on the funding for climate change research, in particular you contrasted the difference between contributions from industry with those of private foundations and the Federal Government.

A1. Yes, we published a report in 2005, *Funding Flows for Climate Change Research and Related Activities* (<http://www.marshall.org/article.php?id=289>), examining financial support by foundations and the Federal Government to non-profit groups and universities for climate-related activities. We were motivated to explore the efforts which are often made to impugn the credibility by virtue of their associations and financial relationships rather than scrutiny of their beliefs or objective research.

Q2. Please walk us through your findings. In particular, how does funding from industry differ with funding from private foundations?

A2. Our study compiled data on grants from private foundations to nonprofit institutes for the period 2000–2002 and for Federal Government expenditures over a range of years. Our main findings were:

- The study of climate change science and the policy ramifications of climate change is a multi-billion dollar enterprise in the United States.

- Private foundations distribute a minimum of \$35–50 million annually to non-profit organizations and universities to comment on or study various elements of the climate change debate. With respect to foundation grants, unlike many other studies of the same topic, we limited our focus solely to those grants specifically designated as supporting a climate change-related effort. Given this constraint, our estimates are, if anything, low.
- This support was significant for many of the receiving institutions. Climate change-related projects accounted for over 25 percent of the three-year total reported grants and contributions received by 10 of the top 20 institutions. For six organizations, climate change grants accounted for 50 percent of their reported grants and contributions received.
- A cursory glimpse of the list of recipients of those private funds reveals that the vast majority are spent by groups favoring restrictions on carbon dioxide emissions and who believe that climate change requires dramatic government action.
- The U.S. Federal Government spent nearly \$2 billion to support climate change science programs in FY 2004.
- More than 2,000 separate climate change-related grants were distributed by federal departments and agencies in FY 2002, the most recent year for which comprehensive data is available.
- Federal support for R&D in the environmental sciences field has tripled in the past 20 years, rising from \$1.2 billion in 1980 to \$3.6 billion in 2002, according to data available from the National Science Foundation.
- In the field of atmospheric science, for example, federally funded R&D accounted for more than 80 percent of total expenditures for nearly one-half of the top 30 institutions in the five-year period (1998–2002).
- If funding alone invariably affects findings and opinions, then what should we make of the significantly greater amounts spent by foundations and the Federal Government? The American scientific enterprise is critically dependent on funding from the Federal Government and without that support would contract dramatically. While the growth in federal support for R&D brings new opportunities, it also has resulted in near complete dependence of individual researchers and university programs on publicly-financed R&D. Yet, the focus remains on the alleged distorting influence of corporate funding on scientific results despite the fact that there are powerful incentives to avoid such conflicts of interest. In the end, if the alleged distorting influences of financial ties are true, then they impact all participants in the marketplace of ideas.

Appendix 2:

ADDITIONAL MATERIAL FOR THE RECORD

REDACTING THE SCIENCE OF ~~CLIMATE CHANGE~~:

AN INVESTIGATIVE AND SYNTHESIS REPORT

By Tarek Maassarani
Government Accountability Project

With contributions from
Jay Dyckman
National Coalition Against Censorship

MARCH 2007

© Government Accountability Project
All rights reserved

The Government Accountability Project (GAP) is the nation's leading whistleblower organization. GAP attorneys and organizers assist whistleblowers in taking their evidence of wrongdoing to appropriate government agencies, committees, and officials to investigate, expose, and rectify problems. More information about GAP, as well as the full text of this report, is available online at www.whistleblower.org or may be obtained from:

The Government Accountability Project
1612 K Street, NW, Suite 1100
Washington, DC 20006
(202) 408-0034
gapdc@whistleblower.org

ACKNOWLEDGEMENTS

A hearty thank you goes out to Richard Ewenstein, Oveta Walker, Kent Mackzum, Athena McMahon, Deanna Lacek, and David Rosen for their hard work and assistance with the investigation. The author would also like to acknowledge Tom Devine, Shelley Walden, Adam Miles, Mary Brumder, and the others at GAP for their support and encouragement, as well as the Union of Concerned Scientists, Greenpeace, Paul Thacker, and Michael Seidman for their help. This report is dedicated to the scientists, government officials and journalists who provided valuable – and often courageous – input. Without them this report would not be possible.

The contents of this report are the sole responsibility of the author and do not necessarily reflect the opinions held by those who have supported it.

INDEX OF ACRONYMS AND ABBREVIATIONS

ACIA	Arctic Climate Impact Assessment	FAQ	Frequently Asked Questions
AOML	Atlantic Oceanographic and Meteorological Laboratory (NOAA)	FOIA	Freedom of Information Act
CAR	U.S. Climate Action Report	FY	fiscal year
CCRI	Climate Change Research Initiative	GAO	Government Accountability Office
CCSP	Climate Change Science Program	GAP	Government Accountability Project
CEI	Competitive Enterprise Institute	GCRA	Global Change Research Act
CEQ	Council on Environmental Quality (EOP)	GFDL	Geophysical Fluid Dynamics Laboratory (NOAA)
CIWG	Communications Interagency Working Group (CCSP)	GISS	Goddard Institute for Space Studies (NASA)
CMDL	Climate Monitoring and Diagnostics Laboratory (NOAA)	GMD	Global Monitoring Division (NOAA)
CSRA	Civil Service Reform Act	GRL	Geophysical Research Letters
DAO	DOC Administrative Order	GSFC	Goddard Space Flight Center (NASA)
DOC	U.S. Department of Commerce	HHS	Department of Health and Human Services
DOD	U.S. Department of Defense	HRD	Hurricane Research Division (NOAA)
DOE	U.S. Department of Energy	IG	inspector general
DOI	U.S. Department of Interior	IPCC	Intergovernmental Panel on Climate Change
DOS	U.S. State Department	IQA	Information Quality Act
DOT	U.S. Department of Transportation	NAO	NOAA Administrative Order
EOP	Executive Office of the President	NAS	National Academy of Sciences
EPA	Environmental Protection Agency	NASA	National Aeronautics and Space Administration
FACA	Federal Advisory Committee Act	NCAC	National Coalition Against Censorship

 REDACTING THE SCIENCE OF CLIMATE CHANGE

NCAR	National Center for Atmospheric Research	ORNL	Oak Ridge National Laboratory
NCDC	National Climatic Data Center	OSTP	Office of Science and Technology Policy (EOP)
NEC	NOAA Executive Council	PAO	public affairs office
NESDIS	National Environmental Satellite, Data and Information Service (NOAA)	PEER	Public Employees for Environmental Responsibility
NHC	National Hurricane Center (NOAA)	PIO	public information officer
NIH	National Institutes of Health	PMEL	Pacific Marine Environmental Laboratory (NOAA)
NIST	National Institute of Standards and Technology	Q&A	question and answer
NOAA	National Oceanic and Atmospheric Administration	QFR	questions for the record
NOS	National Ocean Service (NOAA)	SAP	Synthesis and Assessment Product (CCSP)
NRC	National Research Council (NAS)	SBU	sensitive but unclassified
NRCS	Natural Resources Conservation Service	SOCCR	State of the Carbon Cycle Report
NSB	National Science Board	UCAR	University Corporation for Atmospheric Research
NSF	National Science Foundation	UCS	Union of Concerned Scientists
NSTC	National Science and Technology Council	UNFCCC	U.N. Framework Convention on Climate Change
NWS	National Weather Service (NOAA)	USAID	United States Agency for International Development
OAR	Oceanic and Atmospheric Research (NOAA)	USDA	U.S. Department of Agriculture
OCP	Our Changing Planet	USFWS	U.S. Fish and Wildlife Service
OLA	Office of Legislative Affairs (NOAA)	USGCRP	U.S. Global Change Research Program
OMB	Office of Management and Budget (EOP)	USGS	United States Geological Survey
OPCIA	Office of Public, Constituent, and Intergovernmental Affairs (NOAA)	USNA	U.S. National Assessment of the Potential Consequences of Climate Variability and Change
ORD	Office of Research and Development (EPA)	WPA	Whistleblower Protection Act

TABLE OF CONTENTS

EXECUTIVE SUMMARY AND SYNTHESIS	1
INTRODUCTION	4
SCIENTIFIC COMMUNICATIONS WITH THE MEDIA	7
NOAA AT THE TURN OF THE MILLENNIUM	8
NOAA'S 2004 MEDIA POLICY	10
THE MEDIA STORM	14
PIETER TANS	23
RONALD STOFFER	23
TOM DELWORTH	25
PRESS RELEASES	27
NASA	32
EPA AND THE DEPARTMENT OF INTERIOR	37
SCIENTIFIC COMMUNICATIONS WITH CONGRESS	41
TESTIMONY AND TALKING POINTS	42
CONGRESSIONAL REPORTS	46
CONGRESSIONAL INVOLVEMENT	61
COMMUNICATIONS WITH THE PUBLIC AND THE SCIENTIFIC COMMUNITY	64
SCIENTIFIC PUBLICATIONS	64
PRESENTATIONS	67
ON THE WORLD WIDE WEB	69
MISSION STATEMENTS	73
A NOTE ON INTERFERENCE WITH SCIENTIFIC RESEARCH	74
AGENCY MISREPRESENTATION	76
MEDIA CONTACT FAVORITISM	77
PRESS CONFERENCES AND CONGRESSIONAL HEARINGS	80
WEBSITES	81
FACT SHEETS	83
THE CHAIN OF COMMAND	85
RECENT DEVELOPMENTS	92
NASA	92
NOAA	94
IMPROVEMENTS	97
SPOTLIGHTING THE CCSP	98
LEGAL ANALYSIS	100
MEDIA POLICIES AND THE FIRST AMENDMENT	100
NASA AND THE FIRST AMENDMENT	103
NOAA AND THE FIRST AMENDMENT	106
MEDIA POLICIES AND STATUTORY PROTECTIONS	109
RECOMMENDATIONS	112
APPENDIX	118
APPENDIX A: ABOUT THE AUTHORS	118
APPENDIX B: ABOUT THIS REPORT AND THE INVESTIGATION	119
APPENDIX D: BACKGROUND ON FEDERAL CLIMATE SCIENCE RESEARCH	125
APPENDIX E: MODEL MEDIA POLICY	128

EXECUTIVE SUMMARY AND SYNTHESIS

This report, which presents and synthesizes the findings of a year-long investigation to determine the extent of political interference at federal climate science agencies, demonstrates how policies and practices have increasingly restricted the flow of scientific information emerging from publicly-funded climate change research. This has affected the media's ability to report on the science, public officials' capacity to respond with appropriate policies, and the public's grasp of an environmental issue with profound consequences for our future.

Conducted by the Government Accountability Project, the investigation incorporated dozens of interviews; a review of thousands of Freedom of Information Act disclosures, internal documents, and public records; and a comprehensive search of news archives.¹ Although the investigation focused heavily on the National Oceanic and Atmospheric Administration, it also included the National Aeronautics and Space Administration, the Environmental Protection Agency, the U.S. Geological Survey, the Department of Agriculture, and the Climate Change Science Program.

A perception of inappropriate political interference is widespread among employees of the federal climate science agencies and programs, as well as among journalists from national, mainstream outlets who cover their research. This perception is substantiated by evidence from inside sources, scientists' personal testimonies, journalists, and Freedom of Information Act disclosures.

The investigation found no incidents of direct interference with climate change research. Instead, unduly restrictive policies and practices were located largely in the *communication* of "sensitive" scientific information to the media, the public, and Congress. In this context, "sensitive scientific information" is meant to signify that science which does not support existing policy positions or objectives in research dealing with the effects of climate change or greenhouse gases on hurricanes, sea levels, Arctic ice loss, marine life, and human society.

Interference with media communications includes delaying, monitoring, screening, and denying interviews, as well as delay, denial, and inappropriate editing of press releases. Interference with the public and Congress includes inappropriate editing, delay, and suppression of reports and other printed and online material. These restrictive communication policies and practices are largely characterized by internal inconsistencies, ambiguity, and a lack of transparency. In turn, they send chilling signals to federal employees, including scientists and public affairs officers, that reinforce the suppression of "sensitive" information.

There is a clear trend toward increasingly restrictive policies and practices unsupported by any official justification from the agencies and programs. Why are these restrictions becoming more pervasive than ever before? The evidence suggests that incidents of interference are often top-down reactions to science that has negative policy

¹ For more information, see Appendix B: About this report and the investigation.

or public relations implications for the administration. Attempts to impose such restrictions are sometimes unsuccessful and even counter-productive; how frequently they succeed unreported, however, cannot be quantified. Although restrictive practices tend to target the small number of federal employees working with sensitive information, the overbroad application of restrictive policies and their chilling effect impact a wide range of personnel.

Directives and signals from executive offices such as the Council on Environmental Quality, the Office of Management and Budget, and the Office of Science and Technology Policy are channeled through political appointees and younger politically-aligned career civil servants at lower-level press and policy offices. These communications largely take place off the record, frequently deviating from written policy guidelines and involving individuals with few scientific qualifications. Whereas low-level agency and program support staff are typically sympathetic to the scientists and their science, as one scientist noted, “the closer you get to Washington, the more hostile [they are to the science].” Despite supportive rhetoric, senior managers who are aware of the perception and even the incidents of interference largely fail to address them. To the contrary, they may be conforming to pressures from above to downplay politically-inconvenient science.

Whether these restrictive communication policies and practices have precipitated overt and, often, well-publicized incidents or have acted by more subtle processes, their effect has been to misrepresent and under-represent the taxpayer-funded scientific knowledge generated by federal climate science agencies and programs. In some cases, the policies and practices constitute constitutional and statutory infringements of the federal climate science employees’ free speech and whistleblower rights. In most cases, the policies and practices undermine the government’s inherent obligation to disseminate the results of publicly-funded research.

Increased congressional and media attention on the political suppression of climate science has often resulted in statements of commitment to scientific openness and a loosening of communication policies and their application. This pressure has led to actual or anticipated reforms, as well as improved morale, at NASA and NOAA, though institutional problems and policy weaknesses remain. Even in rhetoric, this reform movement has largely missed ongoing problems at EPA and CCSP.

The Government Accountability Project recommends the executive branch and all federal agencies that support climate change research:

- Implement a clear and transparent “notice and recap” media policy in which only a prior notification to public affairs and a subsequent follow-up are required. Correspondingly, eliminate mandatory pre-approval for media contacts, selective routing of media requests, drafting of anticipated questions and answers by scientists prior to interviews, and monitoring of media communications.

- Develop a transparent communications policy at the Climate Change Science Program and streamline the approval process for its products and communications.
- Reaffirm and educate federal employees about their right to speak on any subject so long as they make clear that they are expressing their personal views and do not use government time and resources – with the important proviso that no restrictions apply when federal employees are exercising their whistleblower rights to disclose unclassified information that is reasonably believed to evidence illegality, gross waste, gross mismanagement, abuse of power, or substantial and specific danger to public health or safety.
- Bring media policies into compliance with the Anti-Gag Statute, Whistleblower Protection Act, and related provisions, and provide clear regulations as to what constitutes properly classified, sensitive, or restricted information.
- Ensure the timely and pro-active coordination of press releases and media contacts so as to promote rather than limit the flow of information.
- Ensure that content editing and scientific quality control remain with qualified scientists and the peer-review process.
- Reaffirm and educate federal employees on their right to review any final draft that is to be published under their name or that substantially references their research.
- Establish accountability procedures that increase transparency and provide for internal reporting of undue interference with science.
- Investigate and correct inappropriate policies, practices, and incidents such as those described in this report.

The Government Accountability Project recommends that Congress:

- Enact legislation that protects federal free speech and whistleblower rights, with particular reference to employees of federal science agencies.
- Ensure that objective and independent science is the basis for policymaking.
- Strengthen its essential oversight functions with regard to the integrity of communications about scientific research.

INTRODUCTION

Climate scientists' work consists primarily of research: observations, process studies, and modeling activities designed to enhance our understanding of climate change and variability. The investigation by the Government Accountability Project (GAP) has uncovered no concrete evidence that political actors are directly and willfully interfering with this fundamental aspect of scientific work. This finding is supported by a survey of federal climate scientists conducted by the Union of Concerned Scientists (UCS), whose results show that 88% and 70% of scientists polled believe, respectively, that U.S. federal government climate research is of generally excellent quality and that federal climate research is independent and impartial.² Largely, scientists remain free to choose their topics of interest, conduct research, and publish their results in scientific journals without being told otherwise.³

Journals such as *Nature*, *Science*, the *Journal of Climate*, the *Journal of the Atmospheric Sciences*, the *Journal of Geophysical Research*, and the *Bulletin of the American Meteorological Society* are held in high esteem by the scientific community. All the scientists we spoke to on this topic considered that, by virtue of the rigorous refereed and peer-review process and the ready opportunities for cross-validation, the conclusions that emerge from the scientific literature are of the highest quality and objectivity.⁴ Not surprisingly, the freedom to publish in scientific journals is widely cherished and celebrated, and not just by scientists. In response to criticism, agency management commonly points to the scientists' freedom to conduct research and publish in scientific literature.⁵ Consider Robert Atlas, Director of the Atlantic Oceanographic and Meteorological Laboratory (AOML) at the National Oceanic and Atmospheric Administration (NOAA), when asked about scientific integrity at his agency:⁶

I have not observed any political interference with our ability at AOML to communicate scientific information. All of our scientists are free to publish their results in the refereed scientific literature and to present high quality research at national or international conferences. Only the quality of the research is scrutinized and scientists are encouraged to present their conclusions that are supported by their research.

² Survey of Federal Climate Scientists, UCS Scientific Integrity Program (2006) questions #5, 7. In summer 2006, UCS mailed printed surveys to more than 1,600 federal scientists, representing all the climate scientists UCS could identify throughout the major federal agencies conducting climate research, as well as the National Center for Atmospheric Research. The survey featured 40 questions, including 39 multiple-choice questions and one open-ended essay question. Three hundred eight surveys, including 132 essay responses, were completed and returned to UCS.

³ See, e.g., anonymous lab director, communications with Maassarani (October 19, 2006) *record on file with GAP*; Conrad Lautenbacher, "We're Funding Climate Science, Not Muzzling It," Letter to the Editor in the *Washington Post* (April 19, 2006).

⁴ 88% of survey respondents noted that they "generally seek to publish [their] research findings in peer-reviewed literature." Survey of Federal Climate Scientists, UCS Scientific Integrity Program (2006) questions #4.

⁵ E.g., Richard Spinrad, communication with Maassarani (October 11, 2006) *record on file with GAP*.

⁶ Robert Atlas, communication with Maassarani (October 12, 2006) *record on file with GAP*.

In May 2006, the National Science Board (NSB) issued a report in response to a request from Senator John McCain (R-AZ) examining the policies of science agencies with regard to the suppression of scientific research, noting that:⁷

Congressional aspirations for public access to the Federal agencies' scientific information [are] frequently reflected in statutory language, which generally requires or permits the generation, dissemination, and publication of the agencies' research results and information. We are only aware of one situation... where statutory language authorizes Federal agencies to withhold unclassified technical findings from public disclosure, and then only for a "reasonable" amount of time. We found only a few relevant Federal regulations for the disclosure of research findings, which generally encourage publication of research results.

The NSB report's findings described the existence of dissemination policies but provided scant in-depth analysis of their content or application. The report went on to conclude little more than that "dissemination policies and practices of the agencies [were] inconsistent across the government."⁸ However, GAP's investigation has uncovered where dissemination policies and practices fall short of the Congressional ideals laid out above. We show that the variation in these policies and practices tracks politically salient events, sensitive research, and the scientists who conduct this research.

In contrast to the more robust freedoms of scientific research and publication, the restrictions that our investigations document occurred more frequently with the communication of scientific information to the media, Congress, and the general public. Generally, scientists consider such communication a minor, if not discretionary or even disruptive, aspect of their work.⁹ One scientist was quick to point out that it is not a part of his job description.¹⁰ In light of the lower priority they tend to attach to public relations than to actual scientific research and its publication for fellow scientists, it is striking that this issue has recently captured the attention of so many scientists.

Like many of us, federal scientists realize that it is the communication of their work to decision makers and the public that ultimately justifies their employment at the science agencies.¹¹ The government would not have committed such tremendous resources to science if it was little more than an academic exercise. Yet as much as

⁷ Attachment 4 to NSB-06-60, Letter to Sen. McCain (May 10, 2006) *record on file with GAP*.

⁸ Nonetheless, Dr. Warren Washington, chairman of the NSB and senior climate scientist at the National Center for Atmospheric Research (NCAR), told an audience that "The news media is not getting the full story, especially from government scientists" at a three-day conference entitled "Climate Change and the Future of the American West" in early June of 2006. In a June 8, 2006, article for the *Rocky Mountain News*, reporter Jim Erickson cites a personal interview with Dr. Washington in which he said "that Bush appointees are suppressing information about climate change, restricting journalists' access to federal scientists and rewriting agency news releases to stress global warming uncertainties... that the climate cover-up is occurring at several federal agencies, including NASA, the National Oceanic and Atmospheric Administration, and the U.S. Forest Service... and that government officials are trying to confuse the public about climate change and the scientific consensus that global warming is a real problem."

⁹ E.g., anonymous scientist, interview with Maassarani (April 13, 2006) *record on file with GAP*.

¹⁰ *Ibid*.

¹¹ Pieter Tans, interview with Maassarani (March 9, 2006) *record on file with GAP*.

scientists carry a duty to transmit their research to taxpayers and policymakers, it cannot be achieved without the full encouragement and assistance of political superiors and government managers. Instead, policies and practices have increasingly restricted the flow of information. Moreover, government officials' disdain for science that argues against their policy preferences sends a chilling signal through the science agencies that compromises their morale and objectivity.

SCIENTIFIC COMMUNICATIONS WITH THE MEDIA

Media reporting of science is an effective means for making research findings accessible to the general public. The media is a primary source of information for the American public and its decision makers. Furthermore, major news outlets have reporters with a working knowledge of the field who regularly track the newest scientific developments and translate technical language into plain speak. A scientist's communications with the media may include in-person interviews and written or telephone communications – whether for radio, television, or news print – as well as press releases and press conferences.

As with many organizations, federal climate science agencies have policies and practices that regulate their employees' media communications, which are institutionalized by means of an office of public affairs and the promulgation of an official media policy. Although these can encourage better media exposure through networking and assistance in handling reporters, our investigation has catalogued the recent rise of suspect restrictions by agencies on their scientists' communications with the media. These include:

- Pre-Approval – when, after an initial media contact, a scientist is required to get permission from the public affairs office (PAO) before proceeding with an interview. Pre-approval can apply to press releases and press conferences as well as interviews.
- Intake – when pre-approval is extended to require that even a reporter's initial media request be made to public affairs.
- Routing – when public affairs takes media requests and, in spite of the reporter's request, decides which scientists can respond and what topics may be covered.
- Anticipated Q&A – when, prior to granting pre-approval, public affairs requires scientists to anticipate the reporter's questions and to draft their prospective responses.
- Monitoring – when public affairs requires an agency official to be present during the media contact either in person or over the phone.
- No "Personal Views" Exception – when employees' communications are restricted though they are speaking in their private capacity and not abusing government time or resources.

NOAA at the Turn of the Millennium

At the National Oceanic and Atmospheric Administration (NOAA), our evidence of media restrictions dates to 2001 and builds from there.¹² In an email obtained through FOIA, Jana Goldman, public affairs officer at NOAA's Oceanic and Atmospheric Research (OAR) division, told a scientist from the Geophysical Fluid Dynamics Laboratory (GFDL),¹³ "if you get *any* press requests for IPCC please bump them to public affairs before you agree to an interview." [Emphasis in original] The scientist questioned this requirement: "It seems cumbersome at best. If this policy is implemented, it will greatly cut-down on NOAA scientist interviews."¹⁴ The IPCC reference was to a major international scientific assessment report issued four days earlier by the first Working Group of the Intergovernmental Panel on Climate Change, which found "new and stronger evidence that most of the warming observed over the last 50 years is attributable to human activities."¹⁵

In an April 2006 interview, GFDL scientist Tom Delworth also recalled that the problems he currently observes began in 2001, which is when he attempted to raise media attention about a published paper he co-authored determining the anthropogenic influence on the warming of the oceans from a comparison of empirical and model data. At first there was to be a media advisory and press conference to highlight his findings, but it "kept getting degraded until it was canceled." The climate scientist contrasted this experience under the new Bush administration with the treatment of his work on the heat index in the late 1990s, which Vice President Al Gore was actually helping to publicize.¹⁶ It is of note that the day of President George W. Bush's February 14, 2002, climate speech, mid-level management and PAOs were notified by an internal email to refer any media calls about the speech to the White House press office.¹⁷

In an April 6, 2006, interview, Dr. Kevin Trenberth, head of the Climate Analysis Section at the National Center for Atmospheric Research (NCAR), described another

¹² Dr. Jerry Mahlman, who retired from NOAA in 2000 after serving 16 years as director of the Geophysical Fluid Dynamics Lab and who recently set out to write a history of the agency, described the years there since his retirement as the "McCarthy-esque era." Interview with Maassarani (April 6, 2006) *record on file with GAP*. 67% and 64% of survey respondents agreed that "today's environment for federal government climate science is [worse] compared with" five and ten years ago, respectively. Survey of Federal Climate Scientists, UCS Scientific Integrity Program (2006) question #8.

¹³ GFDL is a small but significant branch of NOAA located on the Princeton Forrestal Campus in New Jersey. Founded in 1955, GFDL has pioneered the use of world-class supercomputers to create sophisticated climate forecast models.

¹⁴ Email From: Stouffer, To: Goldman; Date: Jan 25, 2001; Subject: IPCC *Greenpeace NOAA FOIA response* pg. 43.

¹⁵ "Climate Change 2001: The Scientific Basis," Working Group I of the IPCC Third Assessment.

¹⁶ Tom Delworth, interview with Maassarani (April 13, 2006) on file with author. One lab director asserted that "The Clinton administration was perhaps even more extreme in pushing the opposite viewpoint, E.g. global warming was everywhere and was the cause of all the extremes." Interview with Maassarani (October 19, 2006) *record on file with GAP*.

¹⁷ Email From: Jana Goldman; To: Kristina Katsaros, Daniel L. Albritton Bruce Hicks, Randall M. Dole, David J. Hofmann, William Neff, Alexander E. Macdonald, Ants Leetmaa, Stephen B. Brandt, James Kimpel, Eddie N. Bernard, and Ernest Hildner; Date: February 14, 2002; Subject: President Bush speech *GAP August 9, 2006, part 3 NOAA FOIA response* pg 75.

notable incident that occurred following the December 5, 2003, publication of his article entitled "Modern Climate Change" in the journal *Science*. The paper – co-authored by Dr. Tom Karl, director of NOAA's National Climatic Data Center (NCDC) – effectively updated the current state of climate science and concluded that "modern climate change is dominated by human influences." NOAA had been informed of the pending publication, which included a disclaimer that "this article reflects the views of the authors and does not reflect government policy."¹⁸ Nevertheless, media inquiries for Karl were diverted to Dr. Jim Mahoney – a political appointee who then served as Assistant Secretary of Commerce for Oceans and Atmosphere and NOAA Deputy Administrator. Mahoney was quoted downplaying the significance of the peer-reviewed study, stating: "My own view is somewhat more open-minded, and from my perspective we don't really understand these things as well as we might."¹⁹ Some media inquiries for Karl also appeared to require high-level pre-approval. In response to an August 2005 interview request on "intense rainfall events/intense hurricanes and global warming," a staffer for NOAA public affairs headquarters directed its local office, "Please have [the journalist] contact me by phone [redacted] or email. I'll run this by those who need to know."²⁰

A June 5, 2002, FOIA document shows that a blanket pre-approval requirement for all media inquiries and interviews was first informally implemented at NOAA's Atlantic Oceanographic and Meteorological Laboratory (AOML), which houses the Hurricane Research Division (HRD).²¹ Sent to an AOML-wide distribution list by Erica Van Coverden of the AOML PAO, the email stated:

NOAA Public Affairs has requested that for the time being, all media inquiries and interviews be cleared by NOAA PA (myself and Jana) BEFORE they are granted. This applies to any topics that may be of national interest (which covers most of our research)... [Emphasis in original]

This announcement was followed eight days later by an outline clarifying the "AOML media policy," which now clearly allowed for routing of requests.²² Both emails came on the heels of NOAA's May 17 release of its 2002 hurricane season

¹⁸ <http://www.cgd.ucar.edu/cas/trenberth/papers/karltrenberthSci.pdf>

¹⁹ David Perlman, "Climate Change Laid to Humans, Report Warns there is 'No Doubt' Industry is Primary Cause," *San Francisco Chronicle* (December 4, 2003). Dr. Konrad Steffen – director of the Cooperative Institute for Research in Environmental Sciences (CIRES), which is partially funded by NOAA – recounted a similar incident in October 2004 when Dr. Mahoney told him and another colleague involved with the Arctic Climate Impact Assessment Report over a conference call to forward all media inquiries about the report to him. Konrad Steffen, communication with Maassarani (August 26, 2006) *record on file with GAP*. Juliet Eilperin reported that Mahoney "had 'no recollection' of the conversation." "Climate Researchers Feeling Heat from White House," *Washington Post* (April 6, 2006).

²⁰ Email From: John Leslie; To: Laborde; Date: Aug. 22, 2005; Subject: interview request *Thacker complete FOIA response pg. 82*; Email From: Leslie; To: Karl, Laborde; Date: Aug. 25, 2005; Subject: [redacted] Channel Request for Tom Karl *Thacker complete NOAA FOIA response pg. 83*.

²¹ Email From Erica Van Coverden; To: All AOML Staff; Date: June 5, 2002; Subject: Media requests must be cleared by NOAA PA *GAP July 31, 2006, NOAA FOIA response pg. 22*.

²² Email From Erica Van Coverden; Date: Jun 13, 2002; Subject: Media Policy – update and details *GAP July 31, 2006, NOAA FOIA response pg. 1-2*.

outlook, which predicted “above-normal levels of storm activity.”²³ Since 1998, a number of scholarly articles including a 2001 IPCC Technical Summary had begun to explore the tentative links between global warming and hurricanes, suggesting that human influences may supplement the currently-observed multi-decadal upswing in cyclonic activity.²⁴

The development of an official NOAA-wide media policy seems to have been in progress at this time, in tandem with a general centralization of public affairs functions at Washington headquarters.²⁵ In an email from Jana Goldman dated December 23, 2003, Jordan St. John, director of the Office of Public, Constituent and Intergovernmental Affairs (OPCIA), which serves as headquarters for the regional PAOs, set forth the first outlines of such a policy.²⁶ From the FOIA record, however, the distribution of this directive seems once again limited to AOML. A later email from Mahoney to NOAA upper management with the subject line “Re: [Fwd: FYI re: NYTimes call]” urges press inquiries be referred to the PAO and that PAO representatives listen in on conversations with reporters.²⁷ This is followed by a May 5, 2005, email from the Assistant Administrator of OAR, Dr. Richard Rosen, to OAR senior management, stating, “The Ocean Commission report and other activities are generating increased media interest in NOAA. Please remember that NOAA Public Affairs is responsible for coordinating media requests, so refer all inquiries from any news media to our public affairs officer...”²⁸ The document referred to by Rosen was a strongly-worded preliminary report released on April 20, 2004, by the congressionally-mandated U.S. Commission on Ocean Policy that recommended extensive policy reform, increased environmental regulation, ratification of the UN Convention on the Law of the Seas, heightened investment, and a trust fund drawn from the revenue of oil and gas leases to meet the challenges of maintaining healthy ocean ecosystems.²⁹

NOAA’s 2004 Media Policy

On June 28, 2004, under the signature of the Under Secretary of Commerce for Oceans and Atmosphere and NOAA Administrator, Vice Admiral Conrad C. Lautenbacher, Jr., U.S. Navy (Retired), NOAA released an official written media policy that incorporated language directly from St. John’s directive and codified a number of the

²³ AOML Newsletter available at <http://72.14.209.104/search?q=cache:5ZMfFnVCf4YJ:www.aoml.noaa.gov/keynotes/PDF-Files/May-Jun04.pdf+aoml+june+2002+news&hl=en&gl=us&ct=clnk&cd=3&client=firefox-a> (last visited on March 23, 2007).

²⁴ See <http://www.uscrp.gov/uscrp/links/hurricanes.htm> (last visited on March 23, 2007).

²⁵ Anonymous NOAA director, interview with Maassarani (June 1, 2006) *record on file with GAP*.

²⁶ Email From: Erica Van Coverden; Date: Dec 29, 2003; Subject: NOAA media policy *GAP July 31, 2006, NOAA FOIA response pg. 28-29*.

²⁷ Email From: James R Mahoney; To: Chester Koblinsky; Date: April 23, 2004; Subject: [Fwd: FYI Subject: NYTimes call] *record on file with GAP*.

²⁸ From: Rick Rosen; To: OAR Senior Management Staff Nationwide; Date: May 5, 2004; Subject: Media Inquiries *record on file with GAP*.

²⁹ <http://www.oceancommission.gov/documents/prelimreport/welcome.html> (last updated December 19, 2004). The Commission expired on December 19, 2004. Few if any of its recommendations were acted upon.

isolated practices described above.³⁰ In particular, the policy addresses media and public interactions under Section 3 of the administrative order, requiring news conferences, media contacts, and scientific papers to be referred to the servicing PAO. NOAA employees are further obliged to notify the PAO before responding to news media inquiries whenever they are of national news interest, concern regulatory or controversial matters, or have policy implications.³¹ Finally, Section 4 asks employees to “limit discussions to matters for which you are responsible and of which you have direct knowledge.”³² Employees are further told that whenever “speaking to a reporter you represent and speak for the entire agency,” thereby preempting the “personal views” exception.³³ Some form of pre-approval, intake, and routing restrictions are tacitly invoked by Section 2.02: “OPCIA is responsible for coordinating and approving media communications involving NOAA, including advisories, interviews, and other related media contacts.” And then more explicitly in Section 3.03: “Any proposed participation or inclusion in media presentations... by individuals resulting from their duties as NOAA employees must be referred by those individuals to and cleared by OPCIA beforehand.” Section 2 also makes clear that “the clearance of releasable information is the ultimate responsibility of the Secretary of Commerce and his/her designated Public Affairs Director.”

Prior to the issuance of an agency-wide media policy, each research lab had its own established practices. According to Dr. Pieter Tans, chief scientists at NOAA’s Global Monitoring Division (GMD) (then called the Climate Monitoring and Diagnostics Laboratory), a scientist used to be able to make a media appointment, notify the PAO,

³⁰ A DOC administrative order, DAO 219-2, that has been in effect since 1980 “to ensure accuracy and timeliness of the Department’s policies and views” requires PAO clearance for any news releases, speeches, press conferences, and publications; however, it is limited in application to all operating units in and around Washington, DC. “Each operating unit is expected to assure that its field offices coordinate their activities so as to meet the general intent and purpose of this regulation.”

³¹ An example of what may be deemed an inappropriate policy statement for a NOAA scientist is “persuading elected officials to move from accepting the science to curtailing emissions remains a much bigger challenge.” Email From: Stouffer, To: Stouffer [and Andrew Revkin], Date: Sept. 13, 2004; Subject: Question *Greenpeace select hurricane NOAA FOIA response pg. 8-10*.

³² The policy thus preempts scientists from speaking on policy issues that may be inherently implicated by their research, as well as on findings from other scientific fields that may bear significantly on their own work.

³³ Neither does the “personal views” exception seem to have much traction in practice. In an email to a GFDL scientist anticipating a political discussion at an upcoming conference on science and the media, a public affairs officer explains,

I always maintain that the science is strong enough to speak for itself – it’s just when people start giving personal opinions – which I know you do not in such settings – heartburn is felt throughout the higher ups.

You are not one of the scientists I worry about – believe me, I would have advised strongly against you doing the Lamont event if I had any concern that you would not conduct yourself in a professional manner or poorly represent NOAA.

Email from: Ronald Stouffer, To: Jana Goldman, Date: April 22, 2005; Subject: Question *GAP August 9, 2006, part 3 NOAA FOIA response pg 267-68*.

which would help out with the arrangements, and then report back afterwards.³⁴ GFDL scientists recalled a similar standing policy.³⁵ OAR press officer Jana Goldman, who oversees the research labs, also operated by “notification and recap.”³⁶

Initially, the 2004 media protocols did not appear to be seriously implemented as a general policy. FOIA records show that they were informally re-phrased to more clearly require pre-approval and routing at AOML in an email distributed to lab employees at the start of the 2005 hurricane season.³⁷ One month later, Erica Rule of the AOML PAO again reiterated stricter measures to its HRD staff in an email dated July 27, 2005:³⁸

A study on hurricanes and global warming by [Kerry Emanuel] will be released in Nature this Sunday. As this topic might generate media inquiries – consider this e-mail a reminder that ALL media requests are to be directed to NOAA Public Affairs.... [Emphasis in original]

The FOIA record shows that this announcement was preceded by a July 26, 2005 *Associated Press* media request for comments on Emanuel’s by Tom Knutson – a NOAA researcher whose climate modeling supported a link between increased hurricane intensity and climate change. Knutson asked OPCIA for permission to respond, noting that the “paper has the potential to generate a lot of press interest...”³⁹ On July 27, Erica Rule notified Dr. Chris Landsea of NOAA that media inquiries on the subject would be routed to him and that he had blanket pre-approval. Both Knutson and Landsea were familiar with the Emanuel study, having read an advance copy of the manuscript.⁴⁰ The seeming difference – as made clear in his email early that morning – was that Landsea expressed “strong concerns about [his] methodology,” and thus about the conclusion that climate change has an intensifying effect on cyclonic activity.⁴¹ On that same day, though out of the office, Landsea appeared to take the AP interview.⁴² By August 1, FOIA emails show, Landsea had participated in four such “routine, but sensitive” interviews, including an interview with *USA Today* granted on July 29.⁴³

³⁴ Pieter Tans, interview with Maassarani (March 9, 2006) *record on file with GAP*.

³⁵ Anonymous public affairs official, interview with Maassarani (date withheld) *record on file with GAP*.

³⁶ Email From: Goldman; To: Dixon; Date: Nov. 6, 2003; Subject: Forthcoming Science paper *Greenpeace select hurricane NOAA FOIA response pg. 133-34*.

³⁷ Email From: Erica Rule; Date: June 27, 05; Subject: AOML media policy update *GAP July 31, 2006, NOAA FOIA response pg. 35-36*.

³⁸ Email From: Erica Rule; Date: July 27, 05; Subject: possible media attention Subject: [redacted] paper *GAP July 31, 2006, NOAA FOIA response pg. 37*.

³⁹ Email From: Erica Rule; Date: July 27, 2005; Subject: HRD media response to [redacted] paper *GAP July 31, 2006, NOAA FOIA response pg. 6-9*.

⁴⁰ In fact, Knutson was arguably more familiar, having had the opportunity to discuss the paper with Emanuel a month prior. Email From: Knutson; To: Laborde; Date: July 26, 2005; Subject: AP news story on [redacted] paper *Thacker complete NOAA FOIA response pg. 56-57*.

⁴¹ Email From: Knutson; To: Laborde; Date: July 26, 2005; Subject: AP news story on [redacted] paper *Thacker complete NOAA FOIA response pg. 56-57*.

⁴² Email From: Landsea; To: Laborde; Date: July 27, 2005; Subject: [redacted] interview *Thacker complete NOAA FOIA response pg. 58*.

⁴³ Daily Media Tracking; Date: Aug. 1, 2005 *Thacker complete FOIA response pg. 191*; Email From: Kent Laborde; To: Tribble, Trinj, Snullen, West, Sprague, and Lepore; Date: July 28, 2005; Subject: USA

Elsewhere, the media policy simply went unenforced or selectively enforced. At GMD, Tans did not recall being made aware of the media policy until his director referred him to a NOAA web page containing the policy in January 2006. At GFDL, the new media policy was emailed around in the summer of 2004, but the unwritten policy of “notification and recap” largely remained in effect – except when dealing with “hot button” issues or particular scientists – according to laboratory scientists and staff.⁴⁴ For example, one leading NOAA climate modeler recalls that after his name appeared in *The New York Times*, he was personally contacted and told he would need approval – though it was not clear by whom.⁴⁵ The FOIA record shows that interviews on global warming and sea level rise were subject to clearance, anticipated Q&As, and monitoring.⁴⁶ Echoing the anonymous sentiments of other scientists in our investigation, the anonymous scientist cited above did not feel “he [had] the stature to ignore the media policy.”⁴⁷

Tom Knutson also gained considerable media attention for his modeling of hurricanes and climate change, which the *Journal of Climate* published in September 2004.⁴⁸ FOIA records show him contacting Jana Goldman for approval of a media request from Dave Brown of the *Washington Post* on September 2, 2004. Goldman responded, asking what “might you say about the relationship [between hurricanes and climate change]?”⁴⁹ Knutson describes how, in another incident soon thereafter, the PAO required a public affairs officer to listen in on an interview he was to give *The New York Times* science reporter Andrew Revkin.⁵⁰ Upon learning of this condition, Revkin

Today Interview GAP August 9, 2006, part 2 NOAA FOIA response pg. 51. See also Email From: Landsea; To: Erica Rule, Goldman, Laborde; Subject: media contacts on [redacted] article *Thacker complete FOIA response pg. 60-61*.

⁴⁴ Tom Knutson, interview with Maassarani (April 13, 2006) *record on file with GAP*. Anonymous scientist, interview with Maassarani (April 6, 2006), *record on file with GAP*; Email From: Knutson To: Jana Goldman; Date: Sept. 2, 2004; Subject: press contact GAP August 9, 2006, part 3 NOAA FOIA response unscanned docs pg 27-28.

⁴⁵ Anonymous scientist, interview with Maassarani (April 13, 2006) *record on file with GAP*.

⁴⁶ Email From: Stouffer; To: Goldman; Date: April 16, 2004; Subject: Nat geo interview *Greenpeace select hurricane NOAA FOIA response pg. 34-37*; Email From: Stouffer; To: Goldman; Date: April 23, 2004; Subject: another interview *Greenpeace select hurricane NOAA FOIA response pg. 47-51*. In one instance, NOAA required clearance for a GFDL researcher to be placed on a web-posted list of “resource people” that could respond to questions about the film, “The Day After Tomorrow.” Email From: Stouffer; To: Goldman; Date: April 23, 2004; Subject: another interview *Greenpeace select hurricane NOAA FOIA response pg. 47-51*. At NASA Goddard Space Flight Center, a top press officer sent out a message saying that “No one from NASA is to do interviews or otherwise comment on anything having to do with the film... ‘Any news media wanting to discuss science fiction vs. science fact about climate change will need to seek comment from individuals or organizations not associated with NASA.’” Andrew Revkin, “NASA Curbs Comments on Ice Age Disaster Movie,” *The New York Times* (April 25, 2004).

⁴⁷ Anonymous scientist, interview with Maassarani (April 13, 2006) *record on file with GAP*.

⁴⁸ Tom Knutson, interview with Maassarani (April 13, 2006) *record on file with GAP*, <http://www.gfdl.noaa.gov/reference/bibliography/2004/tk0401.pdf> (last visited on March 23, 2007).

⁴⁹ Email From: Knutson; To: Goldman; Date: Sept. 2, 2004; Subject: press contact GAP August 9, 2006, part 3 NOAA FOIA response unscanned docs pg 27-28.

⁵⁰ See also Email From: Goldman; To: Knutson; Date: Sept. 22, 2004; Subject: NY Times *Greenpeace select hurricane NOAA FOIA response pg. 68*. Interviews with Knutson were heavily monitored at this time, including an ABC interview for which Laborde planned on traveling up to Princeton from DC. From:

dropped the interview and instead contacted Robert Tuleya, a 2002 GFDL retiree with whom Knutson had co-authored the *Journal of Climate* article. In a personal interview, Ms. Goldman has confirmed that certain controversial topics have received selective treatment.⁵¹ More specifically, the NOAA PAO's Daily Media Tracking logs label "sensitive" such topics as "hurricanes and climate change," "percentage of CO₂ in greenhouse effect," "sea level rise," "global surface and satellite temperature measurements," "unusually warm lake temperatures," "amount of \$\$ [sic] spent on climate change," "[Kerry] Emanuel paper," "climate change," and "arctic info."⁵²

The Media Storm

It was not until late 2005, in the wake of the Hurricane Katrina disaster and the subsequent media frenzy on hurricanes and global warming, that the official media policy was widely publicized to agency scientists.⁵³ An October 4, 2005, email from Dr. Richard Spinrad, assistant administrator of OAR, to senior-level staff, states: "several incidents in the last few days have served as indications that we need to provide our folks with an important reminder regarding our dealings with the press. Please make sure your folks have reviewed the subject policy.... It's short and it's clear. A quick review can save lots of problems downstream."⁵⁴ Attached to the email string, and presumably one of the "incidents" referred to by Spinrad, is an earlier email linking to an article that was posted on RawStory.com that day.

In the article, Larisa Alexandrovna published the following leaked email memo from the regional public affairs director for NOAA's National Weather Service (NWS) to agency scientists.⁵⁵ The authenticity of the email was confirmed by NWS Director,

Berman; To: Knutson; Date: Sept. 30, 2004; Subject: we're on! *Greenpeace select hurricane NOAA FOIA response pg. 71-72*; Email From: Laborde; To: Knutson; Date: Sept. 30, 2004; Subject: New Scientist magazine *Greenpeace select hurricane NOAA FOIA response pg. 69*; Email From: Goldman; To: Knutson; Date: Sept. 22, 2004; Subject: NY Times *Greenpeace select hurricane NOAA FOIA response pg. 68*.

⁵¹ Jana Goldman, interview with Maassarani (October 7, 2006) *record on file with GAP*. Consider the following incident from the FOIA record: Goldman asks her superior, Kent Laborde, if there are "any problems with" an interview request for Tom Delworth on a pending paper whose findings are consistent with Delworth's earlier published findings of an anthropogenic forcing component to the warming of the world's oceans. Laborde responds that he has gotten the go-ahead from the OPCIA director – "Tom is already on the record for his opinion on this [and we're safe with anthropogenic forcing as a component]" – and that he will also notify NOAA upper management. Email From: Laborde; To: Goldman; Date: Feb. 16, 2005; Subject: Request from [redacted] *Thacker complete NOAA FOIA response pg. 9*.

⁵² Daily Media Tracking log *Thacker complete NOAA FOIA response pg. 170-211*. Note that the hurricane and climate change topic is generally not considered "sensitive" when handled by Chris Landsea, a NOAA scientist who, as discussed below, denies a linkage between the two.

⁵³ In essence, an old unpracticed policy became the new operational policy. As Laborde at PAO HQ responded on October 18, 2005, when asked why DOC had not been informed of a pending interview, "This was done several months ago. We will [now] follow the new procedures." Email From: Fuqua; To: Laborde; Date: Oct. 19, 2005; Subject: on Lehrer request... kent labored will [redacted?] *Thacker complete NOAA FOIA response pg. 121*.

⁵⁴ Email From: Rick Spinrad; Date: Oct. 4, 2005; Subject: NOAA Media Policy *Greenpeace NOAA FOIA response pg. 37*.

⁵⁵ Larisa Alexandrovna, "Commerce Department tells National Weather Service media contacts must be pre-approved," *The Raw Story* (October 4, 2005).

Brigadier General David L. Johnson, at an October 7, 2005, U.S. House Committee on Science hearing on hurricane prediction and seasonal activity.⁵⁶

From "Jim Teet" [redacted]@noaa.gov
 Date Thu, 29 Sep 2005 12:04:34 -0600
 To _NWS WR WFO MICs wr.wfo.mics@noaa.gov, _NWS WR WCMS
 wr.wcms@noaa.gov
 Subject DOC Interview Policy

Good Day All:

I have been informed that any request for an interview with a national media outlet/reporter must now receive prior approval by DOC. Please ensure everyone on your staff is aware of this requirement.

Any request for an interview requires the following information to be forwarded to me immediately, so this process may begin:

The name of the reporter and their affiliation; Their deadline and contact phone number; Name of individual being requested for the interview and purpose of the interview; Additional background about the interview subject, and expertise of requested interviewee on this subject.

The request will be forwarded through NWS/NOAA to DOC; however, the individual to be interviewed ultimately will be determined by DOC.

If any requests for an update concerning the interview are received from the media, refer the individual to me for a response via my cell phone: [redacted]-3516.

Thanks, Jim Teet

With unambiguous blanket pre-approval and routing authority granted all the way up the chain to the Department of Commerce (DOC), this directive betrays a sharp departure from any prior policies and practices studied in our investigations. The NWS staff contacted by Raw Story "expressed surprise" and suspicion about this newest development, especially as they were unaware of the 2004 policy to begin with.⁵⁷ According to one 15-year employee in the article, "There has never been a blanket policy of needing approval before granting an interview with a national media outlet." Furthermore, another anonymous contact indicated that media decisions had always been made at the local level. Nevertheless, the article quotes OPCIA Director Jordan St. John saying, "'the policy has been in existence all along,' adding that he rewrote it in June 2004 with 'several others,' including lawyers and Commerce Department policymakers."⁵⁸

⁵⁶ "Science Democrats Recognize NWS for Hurricane Forecasting Work," Press Release (October 7, 2005) *GAP May 30, 2006, NOAA FOIA response pg 24-25*. A similar directive was disseminated to GFDL and AOML PAO. Email From: Goldman; To: Erica Rule, Brian Gross; Date: Sept. 13, 2005; Subject: Katrina media inquiries *Greenpeace select hurricane NOAA FOIA response pg. 126-27*.

⁵⁷ Larisa Alexandrovna, "Commerce Department tells National Weather Service media contacts must be pre-approved," *The Raw Story* (October 4, 2005).

⁵⁸ *Ibid*.

This sudden post-Katrina re-interpretation of the 2004 media policy was not confined to NWS.⁵⁹ On October 5, 2005, Dr. Robert Atlas, Director of AOML, sent a laboratory-wide order to review the NOAA media policy.⁶⁰ In the email, Atlas goes on to state that “one important change from the current AOML policy is that Commerce Public Affairs has asked to be made aware of all media interview requests – especially those pertaining to Katrina and Rita.” In response, one HRD scientist, Dr. Stanley Goldenberg, writes Jana Goldman and Erica Rule asking for clarification on how to follow the policy and stating “the real question is – and one that we would appreciate DOC or OAR, etc. being more up front about – what prompted this email in the first place?”⁶¹ A few days prior to the November 29, 2005, press conference where NOAA announced the end of the busiest hurricane season on record, Goldman advised Goldenberg that the OAR PAO “was putting a hold on media interviews about hurricanes until 11:15 EST.”⁶²

Nor was the “re-interpretation” limited to DOC review. In an email dated June 13, 2005, OPCIA officer Kent Laborde tells GFDL senior scientist Venkatachalam Ramaswamy and senior level PAO staff:

CEQ and OSTP have given the green light for the interview with Ram. They had me call Juliet[Eilperin, the reporter who requested the interview] to find out more specifics. She will be asking the following:

- *what research are you doing with climate change
- *what research has been encouraged or discouraged by the administration
- *what interaction has he had with the administration
- *does he have free reign to conduct the research her [sic] wants to do

I told Juliette [sic] that he feels comfortable to comment only on science and does not want to loose [sic] his scientific objectivity by addressing policy/potitical [sic] questions. She said since he is not a policy maker, she wouldn't ask policy questions.

Michele [St. Martin of CEQ] wants me to monitor the call and report back to her when it's done...

Note that press conferences also required DOC and CEQ approval.⁶³ Earlier that day, responding to an email from Juliet Eilperin asking whether he “would be willing to speak about to [sic] the extent that you're allowed to pursue the kind of climate research you want,” Ramaswamy had responded “yeah sure,” but directed her to arrange it with

⁵⁹ Anonymous lab director, communications with Maassarani (October 19, 2006) *record on file with GAP*.

⁶⁰ Email From: Robert Atlas, Jana Goldman; Date: Oct 5, 2005; Subject: NOAA media policy; please read as soon as possible *GAP July 31, 2006, NOAA FOIA response pg. 38-40*.

⁶¹ *Ibid*.

⁶² Email From: Jana Goldman; Date: Nov 28, 2005; Subject: media requests *GAP July 31, 2006, NOAA FOIA response pg. 41*.

⁶³ Email From: Tribble, To: Laborde; Date: Oct. 26, 2005; Subject: media at the workshop *Thacker complete NOAA FOIA response pg. 140-41*.

Goldman⁶⁴ Of course, many media requests were registered directly with the PAO and could be denied without the burden of having to explain the decision to any particular scientist. Consider this response from OPCIA Director St. John to a general PAO media request: "I talked to producer [sic]. They are setting this up to a debate on whether there is global warming. I told John to call her back and say thanks, but not [sic] thanks."⁶⁵ According to another email, climate change-related questions posed to the Climate Prediction Center generally were first to be handed to senior political administrators Mahoney or Ahsha Tribble.⁶⁶

In early January of 2006, OPCIA issued implementation protocols for the 2004 media policy, as well as an interview request template, a media contact reporting form, and a NOAA/DOC press release review process flow sheet, which were disseminated by Spinrad to all OAR laboratory directors⁶⁷ The implementation protocols explicitly require pre-approval for press releases, anticipated Q&As, and routing for media requests.⁶⁸

What is the stated intent of these increasingly restrictive policies? In presenting the media policy, Atlas explains, "the end goal here is to ensure we get the highest degree of visibility for our work, while still maintain [sic] a positive image of NOAA as an organization."⁶⁹ Jana Goldman stated, however, that she could not remember one

⁶⁴ From: Kent Laborde; To: Ahsha Tribble, Jana Goldman, Jordan St. John, V. Ramaswamy; Date: June 13, 2005; Subject: GFDL Washington Post *GAP August 9, 2006, part 3 NOAA FOIA response pg 278*; Email From: Ramaswamy; To: Juliet Eilperin; Date: June 13, 2005; Subject: I deleted your re-mail by mistake- what the name and contact info for the NOAA press person? *GAP August 9, 2006, part 3 NOAA FOIA response pg. 279-280*. Goldman then forwarded the email to Kent Laborde at PAO headquarters, who discussed it with OPCIA Director St. John and contacted Michele St. Martin at CEQ, recommending they allow the interview to proceed "since [Ramaswamy] already knows his boundaries." Email From: Ramaswamy; To: [redacted]; Date: June 11, 2005; Subject: I'm the [redacted] national environmental reporter *Thacker complete NOAA FOIA response pg. 39-41*. As reported by Paul Thacker in *Salon*, "when NOAA press officer Laborde was contacted to discuss the e-mails, he denied that interviews were subject to approval from White House officials. Confronted with his own e-mails, however, he said, 'If you already knew the answer, why did you ask the question?'" "Bush's Climate-Controlled White House" (August 9, 2006).

⁶⁵ Email From: St. John; To: Smullen; Date: Dec. 19, 2005; Subject: Media Interview Request Subject: Global Warming *Thacker complete NOAA FOIA response pg. 166*. See also Daily Media Tracking *Thacker complete NOAA FOIA response pg. 202*. Requests: "seeks scientist to discuss global warming in general and gw and hurricanes specifically." Action taken: "Goldman will likely decline."

⁶⁶ Email From: Carmeyia Gillis; To: Laborde, Goldman, Leslie; Date: Nov. 2, 2005; Subject: Climate Czar *Thacker complete NOAA FOIA response pg. 216*.

⁶⁷ Email From: Richard Spinrad; Date: Jan 9, 2006; Subject: NOAA Media Policy and Implementation Protocols *GAP July 31, 2006, NOAA FOIA response pg. 42*.

⁶⁸ See, e.g., Email From: Goldman; To: [redacted]; Date: Nov. 28, 2005; Subject: Stanley Goldenberg on [redacted] Connected [redacted] 2:30p to 12:40p ET *Thacker complete NOAA FOIA response pg. 158*.

⁶⁹ Email From: Robert Atlas/Jana Goldman; Dated: October 5, 2005; Subject: NOAA media policy: please read as soon as possible *GAP July 31, 2006, NOAA FOIA response pg. 38-40*. Interestingly, a January 5, 2006, media request from the BBC on climate modeling demonstrates that clearance has also been required for interviews that are merely "on background," i.e., not for the purpose of attribution, rather for the reporter's background understanding. The public affairs officer at GFDL responds, "Thanks Keith, I still have to forward these requests to NOAA for clearance." Email From: Maria Setzer; To: Keith Dixon; Date: Jan. 5, 2006; Subject: BBC Science Special / Climate Modeling *GAP August 9, 2006, part 3 NOAA*

instance in her seven years at the OAR PAO where an OAR researcher had said something to tarnish the agency's image.⁷⁰ A slideshow prepared for training GFDL scientists on how to interact with the media explains that PAO participation can help scientists feel more comfortable talking to the media, provide factual background information, educate the public, and avoid surprises for all those involved.⁷¹ Indeed, scientists have acknowledged their own shortcomings as media-savvy personalities (something echoed by journalists) and voiced their appreciation for assistance in more effective media communication.⁷² In a small number of cases, scientists recalled PAO intervention as having helped correct misquotes or provided other important follow-up to the media. Similarly, scientists have acknowledged the government's legitimate right to oversee its own internal affairs and "speak with one voice" when it comes to policymaking.⁷³

Nevertheless, these same scientists have also expressed dissatisfaction with these policies and practices, as well as, concerns about their effects. Interviews conducted in April 2006 with leading scientists and local press officers at GMD and GFDL revealed that climate scientists with national media attention – typically, those researching some aspect of anthropogenic climate change – had experienced a marked reduction in their media communications.⁷⁴ At the same time, some journalists have encountered complementary problems.⁷⁵ Mahlman claims that when he visited NOAA's David Skaggs lab on March 3, 2006, he was "mobbed" by scientists that wanted to discuss the "censorship."⁷⁶ Furthermore, scientists and certain public affairs officers alike see these problems reflecting poorly on the credibility of their research.⁷⁷ Finally, our sources have found the interpretation and implementation of the media policy's pre-approval,

FOIA response pg 555-56; Email From: Keith Dixon; To: Maria Setzer; Date: Jan. 13, 2006; Subject: Potential BBC television contact *GAP August 9, 2006, part 3 NOAA FOIA response pg 575.*

⁷⁰ Jana Goldman, interview with Maassarani (October 7, 2006) *record on file with GAP.*

⁷¹ PowerPoint slides for media training presented by Jana Goldman (April 5-6, 2006) *GAP August 9, 2006, NOAA FOIA undated response pg 2.*

⁷² Anonymous scientist, interview with Maassarani (April 13, 2006) *record on file with GAP*; Anonymous NOAA director, interview with Maassarani (June 1, 2006) *record on file with GAP*; Sid Perkins, communications with Maassarani (October 5, 2006) *record on file with GAP.*

⁷³ E.g., anonymous scientist, interview with Maassarani (April 13, 2006) *record on file with GAP*; Anonymous NOAA director, interview with Maassarani (June 1, 2006) *record on file with GAP.* Nonetheless, scientists agree "speaking with one voice" should not be a euphemism for restricting scientific debate.

⁷⁴ Anonymous scientist, interview with Maassarani (April 13, 2006) *record on file with GAP*; Pieter Tans, interview with Maassarani (March 9, 2006) *record on file with GAP*; Anonymous NOAA director, interview with Maassarani (June 1, 2006) *record on file with GAP.* 19% and 36% of UCS survey respondents, respectively, experienced "[n]ew or unusual administrative requirements or procedures that impair climate-related work." Survey of Federal Climate Scientists, UCS Scientific Integrity Program (2006) question # 28.

⁷⁵ E.g., Sid Perkins, communications with Maassarani (October 5, 2006) *record on file with GAP.*

⁷⁶ Jerry Mahlman, interview with Maassarani (April 6, 2006) *record on file with GAP.*

⁷⁷ Ibid, Jana Goldman, interview with Maassarani (October 7, 2006) *record on file with GAP.*

routing, monitoring, and anticipated Q&A requirements to be characterized by secrecy and uncertainty, instead of adding clarity.⁷⁸

Neither support for scientists, nor unity in policy positions, seems to justify the involvement of the DOC and White House in purely scientific communications. The unstated role of these officials and their aptitude in handling scientific information are illustrated by the following exchange from the FOIA record between OPCIA Deputy Director Scott Smullen and 28-year old DOC press officer Catherine Trinh on September 20, 2005:⁷⁹

[Smullen:] Ellsworth Dutton, NOAA project manager for Solar and IR Measurements at NOAA's Climate Monitoring and Diagnostics Laboratory (CMDL), called saying he'd been called by a reporter who requested an interview... to get his opinion of two papers on global dimming... a term used to describe the decrease in the amount of radiation reaching the Earth due to particulates in the atmosphere..... Ellsworth has media experience and is accustomed to dealing with reporters on this subject.

[Trinh:] Do we usually have our scientists comment on third party studies, and do you see an advantage in having him comment on these papers?

[Smullen:] Sometimes, yes. Our scientists are frequently seen as the unbiased voice of reason. CMDL is the largest climate monitoring network in the world... and he's seen as the guru in this regard. It will help establish that NOAA is a leader in the field....

[Trinh:] Does global dimming have anything to do with climate change and/or decrease in the ozone?

[Smullen:] It's a factor in global warming, but its [sic] counters the warming aspect. Solar radiance is a small contributing factor in overall climate change... a small player, so to speak. And no.. not related to ozone.

⁷⁸ Anonymous public affairs official, interview with Maassarani *record on file with GAP*; Jana Goldman, interview with Maassarani (October 7, 2006) *record on file with GAP*. In response to a letter assessing scientists' interest in a media training, one GFDL scientist responded,

I guess I am not very interested in a class that teaches one how to interact with the media. I would be interested in one that gives rules and guidelines for media interactions. I seem to find myself in many situations where the current rules (as I understand them) do not apply well... for example, when I am at an IPCC meeting and I am asked to participate in a local media event. It is very hard to get prior approval because of the time zone problems and the very short deadlines... one example of many."

Email From: Ronald Stouffer, To: Maria Setzer, Date: March 2, 2006; Subject: Media Training *GAP August 9, 2006, part 3 NOAA FOIA response pg 697*.

⁷⁹ Email From: Trinh, To: Smullen, Date: Sept. 20, 2005; clearance #7 – global dimming papers – science for Dutton 9-10 *Thacker Complete NOAA FOIA response pg. 102-04*.

[Trinh:] So if global dimming is occurring, then global warming probably isn't?

[Smullen:] No. the atmosphere is so complex, that they are both occurring. But they're really separate issues.... [Smullen provides another detailed explanation]

[Trinh:] OK. So, how about this.... Is it safe to say that a discussion about global dimming does easily lend itself to a discussion about global warming?....

[Smullen:] Not in this case. We doubt if the larger issue of global warming will come up. Remember, this is a focused science journal that is looking to pick apart the methodology the authors used to decipher their angles about dimming. Dutton is an unbiased expert playing peer review, so to speak.

[Trinh:] Ok. Thanks for walking me through all of this. I think this is fine. Please go ahead.

It should be noted that the absolute number of scientists revealed by our investigations or the UCS survey to have directly experienced interference or onerous delays with media communications is not great. One lab director observed, "probably the great majority of interviews have been granted."⁸⁰ Yet, as Mahlman has noted:

NOAA employs roughly 1,200 people, the large majority of which have little or nothing to do with climate, or climate change. I think it is fair to say that there are about 120 people who are connected with the climate problem in some form or another.... Of that roughly 120 people, I would estimate that about, say, 20 of them are the ones who are actively submitting climate-warming relevant scientific papers to prestigious scientific journals....⁸¹

Notwithstanding who actually experiences it, a widespread perception of interference can result from even a few "sensitive" incidents, increasingly restrictive and inconsistent media policies and practices, and a lack of pro-active support on the part of agency leadership.⁸²

⁸⁰ Anonymous lab director, communications with Maassarani (October 19, 2006) *record on file with GAP*.

⁸¹ Similarly, the UCS survey found a:

pattern of higher reported levels of interference from scientists working on controversial topics [for whom] the rate of political interference [rose] to more than 50 percent. For example, 46 percent of all respondents, but 59 percent of scientists who always or frequently work on sensitive or controversial issues, perceived or experienced pressure to eliminate the words "climate change," "global warming," or other similar terms from a variety of communications. Survey of Federal Climate Scientists.

Timothy Donaghy, et. al. "Atmosphere of Pressure," joint UCS-GAP report (February 2007).

⁸² In the *Traverse City Record-Eagle*, Sheri McWhirter wrote of a retired NOAA hydrologist:

"I'm with the majority of scientists who believe climate change is a manmade cause and effect," Frank Quinn said.

Tom Knutson

On April 10, 2006, Tom Knutson – a GFDL research meteorologist and climate modeling expert working with hurricane specialists to investigate the link between climate change and cyclonic activity – told us that generally around one-fifth of his 60-70 annual media requests “fall through the cracks” due to the delay and added lines of communication, and that these are often with the major national media outlets.⁸³ Knutson describes the climate change/hurricane link as a “fast-moving, hot” topic. In September 2004, he published a paper in the *Journal of Climate* that was picked up by *The New York Times* and coincided with the Florida hurricane season. It was around this time that this area of science and his research in particular gained media attention. Knutson’s models suggest that a small anthropogenic contribution to hurricane activity is already at play.⁸⁴

Upon returning from trip out of town, a week after the July 31, 2005, publication of Kerry Emanuel’s controversial study on increased hurricane activity, Knutson recalled receiving a voicemail from Kent Laborde at OPCIA asking whether he would be interested in appearing on Ronald Reagan Jr.’s MSNBC talk show to discuss hurricanes and climate change.⁸⁵ Shortly thereafter, he received a voicemail from the producer’s staff inquiring the same. As it was the weekend, Knutson responded directly to the show staffer to confirm his appearance and request they contact the PAO on Monday morning. That Monday, Laborde left a voicemail apologizing for the confusion and notifying Knutson that the “White House said no” to the appearance. Knutson then received a second voicemail in which Laborde notified him that he had already called the show and offered as an excuse that Knutson was too tired for the interview after his trip.

In early October 2005, journalist Brian O’Malley contacted Knutson in regard to an op-ed piece for *The New York Times*.⁸⁶ Knutson checked with Jana Goldman, who relayed an email to OPCIA director St. John, which she concluded with, “Knutson and I are concerned that Knutson’s science may be used to advance a policy position.”⁸⁷ St.

That’s an opinion he can utter now that he’s retired, he said. President George W. Bush controls what federal agencies can say about climate change, Quinn said.

“He has muzzled people at NOAA and at NASA. We have a real problem with the administration,” Quinn said.

“Climate Change Having Impact?” (August 21, 2006).

⁸³ Tom Knutson, interview with Maassarani (April 14, 2006) *record on file with GAP*; Antonio Regalado and Jim Carlton; “Statement Acknowledges Some Government Scientists See Link to Global Warming,” *Wall Street Journal* (February 16, 2006).

⁸⁴ This contribution equals about half a category of increased hurricane intensity per 1.75 °C Sea Surface Temperature or 4% rise in wind speeds per degree Celsius, which is still much smaller than what has been observed by Kerry Emanuel’s study. Tom Knutson, interview with Maassarani (April 14, 2006) *record on file with GAP*.

⁸⁵ *Ibid.*

⁸⁶ *Ibid.*

⁸⁷ Email From: Goldman; To: St. John, Smullen, Laborde; Date: Oct. 5, 2005; Subject: media request for gfdl Thacker complete NOAA FOIA response pg. 119, 133.

John responded, "Can you call [redacted] back and quiz him on what he's working on. If it sounds a bit untowards, you can always just refer him to Tom's paper and let me [sic] make his own characterizations." Goldman replied, "Just spoke to him – he just wants to better understand the science – he is not looking to link an individual with a point of view." St. John then concluded, "Take a pass. We'll deal with media requests but let's not open the door to others." For his part, Knutson recalled hearing nothing of the request until he brought it up again with Goldman in February 2006, at which time Goldman offered to get back in touch with O'Malley. As of mid-April 2006, Knutson had yet to hear back from O'Malley. Asked about this in a phone conversation on May 26, 2006, O'Malley told us that he had made repeated phone calls to Jana Goldman, but found himself constantly forwarded to voicemail. "Those of us in the press were used to getting stone-walled... it's a bone-head idea though," he said, because he would get the information anyway, but then without "feeling so charitable." Similar complaints were voiced among a number of the participants at a June 2005 Workshop on "Science Communications and the News Media" hosted by Columbia University and the Lamont-Doherty Earth Observatory.⁸⁸

At the same time that writers such as O'Malley and Revkin have experienced difficulties with the media policy, other writers contacted in our investigations, such as Barbara Levi of *Physics Today*, "have not encountered any barriers when [contacting] federal scientists in reporting on climate issues."⁸⁹ Jorge Salazar of Earth & Sky News

⁸⁸ From: Ronald Stouffer, To: Jana Goldman, Date: June 6, 2005; Subject: scientist/journalist workshop GAP August 9, 2006, part 3 NOAA FOIA response pg 274-76. Participating journalists included: David Appell, Freelance; Chris Bowman, *Sacramento Bee*; Beth Daley, *Boston Globe*; Daniel Grossman, Freelance; Matt Hammill, WQAD TV ABC; Bill Kovarik, Radford University; Phillip Meyer, University of North Carolina at Chapel Hill; Jon Palfreman, PFG Media (WGBH/Nova); Andrew Revkin, *The New York Times*; Richard Wald, Columbia University; Don Wall, WFAA-TV (Dallas-Ft. Worth); and Dale Willman, *Field Notes Productions*.

Scientists have faulted the media for misleading the public as well. As Dr. Casper Ammann pointed out, "the media seems to feel compelled to make scientific stories seem balanced, as if each side is equally valid, even when the data doesn't support that premise." Interview with Maassarani (April 5, 2006) *record on file with GAP*. Another scientist concurred, they "pit one naysayer against thousands of scientists and call it 50-50." Anonymous NOAA director, interview with Maassarani (June 1, 2006) *record on file with GAP*. This "balancing" is often promoted by industry-backed special interest groups and perpetuated by federal and local government. See Jeff Nesmith, "Foes of global warming theory have energy ties," *Cox News Service* (June 2, 2003). Jeff Nesmith, "Nonprofits push controversial climate study," *The Atlanta Journal-Constitution* (June 1, 2003). For example, the House Oversight and Government Reform Committee invited John Christy, professor and Director of the Earth System Science Center at the University of Alabama, and Dr. Roger Pielke Jr. from the University Corporation for Atmospheric Research (UCAR), to speak at a panel on climate change. The inclusion of Christy is apparently one reason that Dr. James Hansen opted out of the panel at the last minute, saying "I would get out of my sickbed to testify to Congress on global warming, if they were ready to deal responsibly with the matter. But obviously they are still in denial, inviting contrarians to 'balance' the science of global warming." Darren Samuelsohn, "Congress 'still in denial' on global warming, NASA's Hansen says," *Environment and Energy Daily* (July 21, 2006). At the local level, consider the mayor of Juneau, Alaska who appointed a skeptic, Tom Ainsworth of NWS, to his small panel on climate change to inform city policymakers. Eric Morrison, "Scientist working on local climate change report: Social, environmental effects assessed as area grows warmer," *Juneau Empire* (August 9, 2006); Elizabeth Blueminks, "Panhandle Meltdown: Local panel reviews effects of climate change," *Juneau Empire* (August 9, 2006).

⁸⁹ Barbara Levi, communication with Maassarani (October 11, 2006) *record on file with GAP*.

told us, "I can personally say that the approval process with NOAA in getting clearance to speak with scientists about their research has been pretty good."⁹⁰ Though a more extensive survey is warranted, in our investigations this positive testimony was solely associated with reporters of local, technical, foreign, and non-mainstream outlets.

Pieter Tans

Dr. Pieter Tans works at the NOAA Skaggs Laboratory in Boulder, Colorado. His research suggests that carbon dioxide plays a dominant role as a "forcing agent" for climate change and that this role is likely to increase relative to other causes of climate change. On October 27, 2004, Tans was contacted by David Shukman, a science correspondent with the BBC, requesting a series of broadcast interviews. According to Tans, it took until February 2005 for permission to be granted, and then only with Kent Laborde's being flown from OPCIA in Washington, DC, to be present at the March 22 and 24 interviews, which took place in Boulder and in Mauna Loa, Hawaii. When David Shukman again requested an interview with Tans, on February 1, 2006, it was approved owing only to Shukman's insistence, and Laborde again flew in to be present when it took place on March 8.⁹¹

Tans recalls that Laborde did not come across as an ideologue, nor did he ever intervene in the interview. When Tans asked Laborde if he was required to report on the interviews, Laborde replied that he did not report the proceedings to anyone. Notwithstanding, Tans continues to refer to such agency officials who sit in on interviews with the media as "minders." To be sure, it is curious that so much time and energy, including flying across five time zones, has been invested into an activity with such a minimal stated purpose. At least three other scientists interviewed at GFDL have had Kent Laborde or another "minder" listen in on phone interviews.⁹² In all cases, the scientists assented to the monitoring on the condition that the press officer not interrupt the interview, and they reported that no monitors have done so.

Ronald Stouffer

Earlier this year Ronald Stouffer, senior research meteorologist at GFDL, estimated that his interviews with American media, about half of the total interviews he entertains, have dropped almost to zero.⁹³ Interviews with the European media, whom he describes as being "shocked" when they find out that approval is required, have remained constant, but only because of an increasing demand from European reporters interested in

⁹⁰ Jorge Salazar, communication with Maassarani (October 2, 2006) *record on file with GAP*.

⁹¹ From his perspective, however, Shukman found NOAA public affairs to be "helpful." David Shukman, communication with Maassarani (October 24, 2006) *record on file with GAP*.

⁹² Anonymous scientist, interview with Maassarani (April 13, 2006) *record on file with GAP*; Anonymous scientist, interview with Maassarani (April 13, 2006) *record on file with GAP*; Tom Knutson, interview with Maassarani (April 13, 2006) *record on file with GAP*. 27% and 26% of survey respondents noted that their "agency [always and frequently, respectively] requires public affairs officials to monitor scientists' communications with the media." Survey of Federal Climate Scientists, UCS Scientific Integrity Program (2006) question #18.

⁹³ Ron Stouffer, interview with Maassarani (April 13, 2006) *record on file with GAP*.

his work on ocean circulations, which is a large concern for Europe. In all, the clearance policy – which he has nicknamed the “pocket veto” – has reduced requests from one every two to three weeks to one every two to three months.

For reporters, even a well-intentioned pre-approval process introduces added delay and the possibility of denial, which in light of pressing deadlines may force them to look for information elsewhere. In one instance, FOIA records show how a *National Geographic* reporter asked Stouffer to comment on a study on Arctic sea ice decline and its divergence from natural variability on October 30, 2005.⁹⁴ Stouffer responded that he would first need to get public affairs approval and copied Jana Goldman, who writes: “I know the DoC is going to ask – well, what is his position.... so can you give me an idea of how you might respond?” As a result of the clearance process, Stouffer missed the reporter’s short deadline. Moreover, it seems that these procedures are not necessarily mere formalities. In a February 17, 2006, email Stouffer relates how he was told, possibly by someone in the NOAA Administrator’s office, that he was not qualified for a proposed interview after submitting the required anticipated Q&As.⁹⁵

A variation on routing interviews from one scientist to another is the explicit placement of restrictions on the topics a scientist is allowed to cover. FOIA records revealed one incident in which Stouffer’s colleague at GFDL, Dr. Leo Donner, felt the PAO had “imposed restrictions on the topics the interview could cover.”⁹⁶ In response to a media request from Todd Neff of the *Boulder Camera*, Jana Goldman wrote on January 28, 2005:⁹⁷

I think this is OK – I just spoke to [redacted] and he’s looking more for how is [sic] this model contributes to the overall future of climate models – I told him we didn’t want to get into comparing models or talking about deficiencies and strengths, but just the general overall how this advances the whole science of modeling.

In another email dated September 22, 2005, OPCIA Deputy Director Scott Smullen advised Kent Laborde that an interview – regarding warming of the Gulf of Mexico and its causes – with NCDC scientist Dr. Richard Reynolds has been cleared “with the caveat that we tell Richard to be very careful with how he frames the global warming signal aspect. Sensitivities there, as you know.”⁹⁸

Although these incidents may be somewhat infrequent, some of the scientists express feelings of discomfort and intimidation and it appears that some have already

⁹⁴ Email From: Ronald Stouffer; To: Jana Goldman; Date: Oct 8, 2005; Subject: national geographic.com inquiry GAP August 9, 2006, part 3 NOAA FOIA response pg 382-86.

⁹⁵ *Ibid.*

⁹⁶ Email From: Leo Donner; To: Steve Mayle; Date: April 24, 2006; Subject: Media Policy FOIA Request Greenpeace NOAA FOIA response pg. 1.

⁹⁷ *Ibid.*

⁹⁸ Email From: Smullen; To: Laborde; Date: Sept. 22, 2005; Subject: [redacted] cleared Thacker complete NOAA FOIA response pg 108.

placed “self-imposed” restrictions on their media communications.⁹⁹ Indeed, Stouffer himself has recently refused a number of interview requests himself, including one to discuss NOAA’s media policy.¹⁰⁰ Four of our sources, who collaborate with but are positioned outside of the agency, asserted that NOAA scientists do not dare speak for fear of being fired.¹⁰¹ A more subtle and pervasive form of self-restraint occurs when scientists feel obliged to temper their words, to avoid sensitive topics, or to represent the government at the expense of their personal views. Consider one researcher from the Pacific Marine Environmental Laboratory (PMEL) who wrote in his request for PAO pre-approval:¹⁰²

Since [the topic of anthropogenic carbon and its ocean storage] is getting into a more politically sensitive area than the numerous interviews we have been doing over the last few weeks, I thought I should check to make sure everyone is okay with my doing this interview.... I am comfortable doing this interview and am confident that I can discuss the science while stating I am not qualified to comment on the policy or political implications.... I am happy to modify this as necessary to make sure this interview goes smoothly and I represent NOAA and IPCC properly.

Tom Delworth

Although Dr. Tom Delworth has not experienced an explicit denial of an interview request, he agrees that a non-response or delay has the same effect.¹⁰³ By April 2006, Delworth found that about a quarter of his interviews fell through due to delays at levels higher than the OAR PAO.¹⁰⁴ He added that about one third of the reporters of

⁹⁹ 21% and 14% of UCS survey respondents, respectively, felt “[s]elf-induced pressure to change research or reporting in order to align findings with agency policy or to avoid controversy.” Survey of Federal Climate Scientists, UCS Scientific Integrity Program (2006) question # 23.

¹⁰⁰ On one occasion, Stouffer hung up on a German reporter who, after Stouffer had told him to talk to Goldman first, became “very unhappy and got right to accusing Bush of gagging me....” Email From: Goldman; To: Laborde; Date: July 5, 2005; Subject: fodder Thacker complete NOAA FOIA response pg. 43-44.

¹⁰¹ Jerry Mahlman, interview with Maassarani (April 6, 2006) *record on file with GAP*; Kevin Trenberth, interview with Maassarani (April 5, 2006) *record on file with GAP*; Judith Curry, interview with Maassarani (May 10, 2006) *record on file with GAP*; John Judis, “The Government’s Junk Science,” *The New Republic* (November 2, 2006) “Scientists who don’t toe the party line are being intimidated from talking to the press. I think it is a very sad situation. I know quite a few people who are frightened, but they beg me not to use their name.”

¹⁰² Email From: St. John; To: Goldman; Date: Aug. 10, 2004; Subject: [redacted] media request – CO2 and Oceans/IPCC Thacker complete NOAA FOIA response pg. 66-67.

¹⁰³ Tom Delworth, interview with Maassarani (April 13, 2006) *record on file with GAP*; Email From: Tom Delworth; To: Jana Goldman, Maria Setzer; Date: Feb. 14, 2006; Subject: Earth and Sky Interview GAP August 9, 2006, part 3 NOAA FOIA response pg. 616.

¹⁰⁴ Email From: Tom Delworth; To: Jana Goldman; Date: Nov. 14, 2005; Subject: Reporter’s request for Science News GAP August 9, 2006, part 3 NOAA FOIA response pg. 481; Email From: Tom Delworth; To: Jana Goldman; Date: Nov. 14, 2005; Subject: Interview request GAP August 9, 2006, part 3 NOAA FOIA response pg. 485; Emails between: Jana Goldman and Jordan St. John; Date: Nov. 14, 2005; Subject: Ben Harder of Science News request to interview T. Delworth GAP August 9, 2006, part 3 NOAA FOIA response pg. 492.

whom he is aware have given up in their attempts to interview him. He estimates it takes about 24 hours for typical requests and longer for more controversial ones. FOIA records show that five- to six-day delays are not unusual depending on how "politically sensitive" the topic is.¹⁰⁵ On two occasions, Delworth never heard back from the PAO. Furthermore, on two or three occasions, NOAA has also made verbal requests of Delworth to prepare anticipated Q&As for the interview. When Jana Goldman informed the NOAA PAO on November 14, 2005, that there were a number of requests on the same climate change-related topic for Delworth and requested blanket approval, Jordan St. John responded, "There are no blanket answers. Each one has to be dealt with as we get it."¹⁰⁶

FOIA records demonstrate one incident concerning a January 23, 2006, request by Sid Perkins of *Science News Magazine* to speak with Delworth and his colleague Keith Dixon about their paper recently published in the *Geophysical Research Letters* (GRL).¹⁰⁷ Their paper explored whether "anthropogenic aerosols [have] delayed a greenhouse gas-induced weakening of the North Atlantic thermohaline circulation." After receiving a message from Jana Goldman at the OAR PAO saying, "I'm afraid this needs to go through the food chain – When did Sid want to talk to them?" and asking for anticipated Q&As, GFDL public affairs officer Maria Setzer apologizes to the two scientists that the interview "needs to go through a more formal clearance process... I will try to clarify with her why this particular interview is being treated differently but in the meantime, do you have any way of anticipating questions the reporter might ask (has asked)?"¹⁰⁸

This was the first time Sid Perkins had encountered the NOAA policy.¹⁰⁹ Although it seemed widely known to NOAA scientists, he felt it was still unfamiliar to

¹⁰⁵ Email From: Jana Goldman, To: Stanley Goldenberg, Date: November 15, 2005; Subject: Media Update -- Status of Ada Monzon interview *GAP August 9, 2006, part 3 NOAA FOIA response pg. 489-490*, Anonymous NOAA director, interview with Maassarani (June 1, 2006) *record on file with GAP*. Consider a casual email by Jana Goldman at the OAR PAO soliciting suggestions from a GFDL scientist in anticipation of an upcoming media storm: "stuff is starting to come out now in preparation for the IPCC report next January and I want to ensure that NOAA gets proper credit as well as starting to calm Those Who Need to Be Calmed months before the actual event." [emphasis in original] The scientist responds, "I guess I am not interested in calming people, the science is what it is - in spite of the politics. NOAA management should know/understand/appreciate the key science points." Email From: Ronald Stouffer, To: Jana Goldman, Maria Setzer, Date: February 7, 2006; Subject: Larry O interview for the discovery channel *GAP August 9, 2006, part 3 NOAA FOIA response pg. 594*.

¹⁰⁶ Emails between: Jana Goldman and Jordan St. John, Date: Nov. 14, 2005; Subject: Ben Harder of Science News request to interview T. Delworth *GAP August 9, 2006, part 3 NOAA FOIA response pg. 492*.

¹⁰⁷ Email From: Jana Goldman, To: Maria Setzer, Date January 24, 2006; Subject: Media Contact: Science News Magazine *GAP August 9, 2006, part 3 NOAA FOIA response pg. 576-79*; Tom Delworth, interview with Maassarani (April 13, 2006) *record on file with GAP*, Sid Perkins, communications with Maassarani (October 5, 2005) *record on file with GAP*. In response to our inquiry, one scientist wrote to us, "I appreciate the work that you and your colleagues are doing, but I believe it's best that we not meet." Anonymous scientists, communication with Maassarani (July 18, 2006) *record on file with GAP*.

¹⁰⁸ *Ibid.*

¹⁰⁹ Sid Perkins, communications with Maassarani (October 5, 2005) *record on file with GAP*.

the media. When asked about how the request was handled, Sid Perkins maintained that:¹¹⁰

The "approval process," if it existed at all in this case, was incredibly slow. After I e-mailed him [Keith Dixon] to officially request an interview, I tried to call a NOAA public affairs person -- a lady that I've worked with often -- to confirm this policy. She was out of the office for a few days at the time, so I had to call NOAA headquarters and speak with someone there. As far as I know, my request disappeared into a black hole.... My interview with Dixon did not take place, but eventually I was able to speak with Dr. Delworth.

Press Releases

Press releases or media advisories allow scientists to raise widespread media attention, typically to the publication of new research. Our investigations show that from early in the Bush administration's first term, agency treatment of press releases has largely mirrored that of media requests. In a June 3, 2002, email entitled "draft press release," Jana Goldman responds to Kent Laborde's questions on the press release protocols, "I'm still not even sure about certain things and I've been here for three years! I think we are OK on this one as it's not a sensitive subject -- like climate change -- and we are quoting a scientist rather than an administration official."¹¹¹

When press releases did concern climate change, obtaining Department of Commerce approval was standard practice. Consider a September 26, 2002, conversation string between Goldman and Dr. Richard Wetherald, a Republican-registered research meteorologist at GFDL.¹¹² Pending its publication, Wetherald forwards the abstract of an article he has co-authored on a study of the simulated "hydrological changes associated with global warming."

[Wetherald:] I have not bothered to write a draft NOAA press release since the last time it was turned down by the Dept. of Commerce. Apparently at that time, greenhouse or global warming papers were considered to be the literary equivalent of "persona non grata" by the current administration. I assume that this is still the case? I don't want to waste both of our times if it is. Anyway, here is the summary for your information. Please let me know if this policy has changed....

[Goldman:] What I think I may do is pass the abstract along downtown and see what they think. I agree with you, the attitude seems to have changed regarding climate change, but let's also avoid doing unnecessary work if it's not going to go anywhere....

¹¹⁰ *Ibid.*

¹¹¹ Email From: Kent Laborde; To: Jana Goldman; Date: June 3, 2002; Subject: Draft Press Release *GAP August 9, 2006, part 3 NOAA FOIA response pg 93-95.*

¹¹² Email From: Dick Wetherald; To: Jana Goldman; Date: September 26, 2002; Subject: AGU Journal Highlight *GAP August 9, 2006, part 3 NOAA FOIA response pg 144-46.*

[Wetherald:] That sounds like a sensible idea. If by some miracle, you can use it as a NOAA press release, this would be fine as long as it contains the basic conclusions in the summary that I sent. I will certainly help out if it comes to that....

[Goldman:] I sent the abstract down to see if it would fly -- if so, we would have to draft a release, but at least we would know that it would go through and our work would not be in vain. Thanx [sic] again for letting me know about the paper....

The New Jersey *Star-Ledger* has reported that Wetherald has had three proposed press releases rejected -- beginning with an early 2001 publication concerning "committed warming and its implications" in the prestigious *Geophysical Research Letters* (GRL).¹¹³ The push-back did not appear to come from OAR public affairs. Jana Goldman told him his paper "warrants a release" in a February 1, 2001, email.¹¹⁴ Instead, he remembers being told that his most recent 2004 press release accompanying the publication of another global warming paper was rejected by "officials" at the Department of Commerce. "Obviously, the papers had a message, and it was not what they wanted it to be," Wetherald told Kitta MacPherson of the *Star-Ledger*. "A decision was made at a high level not to let it out." The FOIA record reveals that Wetherald proposed another press release to Goldman on August 18, 2005, stating:¹¹⁵

I know our "track record" on any study even remotely involving greenhouse warming research but I thought that since these two studies [that Wetherald co-authored and recently published in *Science*] basically resolved and highlighted various discrepancies in both the satellite and radiosonde [sic] data as compared with model prediction, I thought that there might be a "ghost of a chance" on doing something with this since some of our people were involved with the studies.... Believe it or not, I still want to do this sort of thing "through the system" with you. Hopefully, it will happen again someday???

It appears from a review of the record that no such press release was ever issued.¹¹⁶

Ronald Stouffer, co-author on at least one of Wetherald's above-mentioned papers, has "stopped trying to get press releases out" because of the difficulty of conveying the science to the PAOs and the complexity of the approval process.¹¹⁷ A comparison of press release requests passed onto Commerce in the FOIA record and the

¹¹³ Kitta MacPherson, "Scientists: Climate data squelched," *Star-Ledger* (October 1, 2006); The draft March press release can be found at *GAP August 9, 2006, part 3 NOAA FOIA response pg 55-57*.

¹¹⁴ Email From: Steve Carson; To: Jana Goldman; Date: February 1, 2001; Subject: GRL Paper "Committed warming and its implications for climate change" *GAP August 9, 2006, part 3 NOAA FOIA response pg 28-29*.

¹¹⁵ Email From: Wetherald; To: Goldman; Date: Aug. 18, 05; Subject: Science papers on Observed Temperature biases *Thacker complete NOAA FOIA summary pg. 212*.

¹¹⁶ See <http://www.publicaffairs.noaa.gov/releases2005/> (last visited on March 23, 2007).

¹¹⁷ Ronald Stouffer, interview with Maassarani (April 10, 2006), *record on file with GAP*.

NOAA press release archives reveals at least one other release that was buried pertaining to a 2001 *Journal of Climate* paper by Dr. Isaac Held, senior research scientist at GFDL, and Dr. Tapio Schneider, assistant professor at the California Institute of Technology. According to Schneider, the paper “contains what probably is the first clear observational (i.e. model-independent) indication for a human influence on climate.”¹¹⁸

Section 2.02 of the 2004 media policy mentions the coordination and approval of press releases. This is reinforced by the 2006 implementation protocols, which stipulate that “all releases, especially those announcing issues of national interest, policy, that detail a significant accomplishment, or that may be controversial for some reason, are to be forwarded through the NOAA Press Release process.” Dated February 2006, the NOAA/Commerce News Release Review Process is a 12-step procedure that includes “NOAA Line Office Asst. Admin. [review],” “OPCIA review and edit,” “Policy Office/PCO [Program Coordination Office]/Leg. Affairs Review,” “NOAA Chief of Staff and Leadership review,” and “DOC PA REVIEW.” Notably, this flowchart omits any mention of White House review, which our report suggests as routine for “sensitive” topics under this administration.

This clearance procedure has resulted in considerable delay. On February 27, 2006, the NOAA PAO issued a press release entitled, “Researchers Identify Cause of Unusual 1979-2003 Cooling of the Global Lower Stratosphere,” three days after the publication of the research in *Science*.¹¹⁹ In response to an inquiry by the lead author and NOAA GFDL senior scientist Venkatachalam Ramaswamy concerning the delay, a local press officer advised the researcher that a three-week turn-around was to be expected.¹²⁰ In light of such delays, an anonymous NOAA senior scientist explains, “it is a shame” that only his co-authors from universities get their press releases out the same day their papers are released and that “NOAA thus fails to garner the credit due on its own work.”¹²¹ Furthermore, it appears from the FOIA record that Ramaswamy was not allowed final approval of the advisory after it went “downtown” in the few days prior to its final release.¹²²

It seems that sensitive press releases are delayed more than others, if cleared at all. Tom Knutson recalled that he had prepared a one-page summary of his 2004 paper to be published in the *Journal of Climate* for a press release but was soon informed it would not go through.¹²³ He recently confirmed this incident at a GFDL media workshop, where two of his colleagues also brought up (and Jana Goldman acknowledged) similar

¹¹⁸ Email From Steve Carson; To: Jana Goldman; Date: January 11, 2001; Subject: outreach? GAP August 9, 2006, part 3 NOAA FOIA response pg 13.

¹¹⁹ Press release at <http://www.publicaffairs.noaa.gov/releases2006/feb06/noaa06-025.html> (last visited on March 23, 2007).

¹²⁰ Email From: Maria Setzer, To: Ramaswamy; Date: March 6, 2006; Subject: Press Release Greenpeace NOAA FOIA response pg. 2.

¹²¹ Anonymous scientist, interview with Maassarani (April 13, 2006) record on file with GAP.

¹²² Email From: Goldman; To: Ramaswamy; Date: Feb. 21, 2006; Subject: Draft release for science paper Greenpeace select hurricane NOAA FOIA response pg. 2-6.

¹²³ Tom Knutson, interview with Maassarani (April 10, 2006) record on file with GAP.

experiences with their proposed releases. This contrasts with the handling of press releases that are supportive of the administration's position or otherwise congratulatory.

On July 1, 2005, NOAA OAR Assistant Administrator Rick Rosen contacted Ahsha Tribble personally to propose a press release for a comment by Dr. Chris Landsea to be published several months later in the *Journal of Climate*. According to Rosen, "It challenges the conclusions reached by Knutson and Tuleya (2004) regarding the potential for more intense hurricanes in a warmer climate. It is not likely to attract the same media attention as the original Knutson and Tuleya [sic] paper, but we should consider drafting a NOAA press release nonetheless."¹²⁴ On October 7, 2003, NOAA put out a press release announcing "NOAA awards over \$3.4 million to Princeton University for Climate... 'as envisioned in the Bush administration's Climate Change Research Initiative,'" adds Commerce Undersecretary and NOAA Administrator Lautenbacher.¹²⁵ In an email trail leading up to the October 7 release, GFDL Administrative Officer Steve Mayle writes, "George [Philander, a Princeton professor and researcher] said the University would probably issue its own press release. If that turns out to be the case, we should put your press people in touch with our press people so that they can coordinate the issuance of the releases." At other times – for example, with Wetherald's 2001 proposed press release described above – duplication of press releases has been cited as a reason to reject more politically sensitive press releases.

In a more recent instance, Dr. Joellen Russell, a former GFDL research scientist who had moved to the University of Arizona to take an appointment as Assistant Professor of Geosciences, sent Jana Goldman the following email:¹²⁶

Dear Jana,

Ron Stouffer asked me to contact you. He told me that you and Maria had discussed the following paper, "The Southern Hemisphere Westerlies in a Warming World: Propping the Door to the Deep Ocean."

I am the lead author of this paper that describes the critical role of the Southern Ocean in the global climate response to increasing greenhouse gases. I have a number of GFDL co-authors {Ronald Stouffer, Keith Dixon, Robbie Toggweiler, and Anand Gnanadesikan} and our study uses the latest GFDL coupled climate

¹²⁴ Email From: Rick Rosen; To: Ahsha Tribble; CC: James Mahoney, Jana Goldman; Date: July 1, 2005; Subject: Paper on hurricanes and global warming *GAP August 9, 2006, part 3 NOAA FOIA response pg. 299*.

¹²⁵ Email From: Jana Goldman; To: Steve Mayle; Date: September 29, 2003; Subject: Draft Princeton Press Release *GAP August 9, 2006, part 3 NOAA FOIA response unscanned docs pg 6*; Email From: Goldman; To: Aja Sae-Kung, Eric Smith; Date: October 6, 2003; Subject: GFDL climate release with Cong. Quote *GAP August 9, 2006, part 3 NOAA FOIA response unscanned docs pg 7-8*; Email From: Goldman; To: Scott Smullen; Date: October 6, 2003; Subject: climate paper pg 9; Email From: Jana To: Steve Mayle Re: draft quote Date: Oct. 6, 2003 *GAP August 9, 2006, part 3 NOAA FOIA response unscanned docs pg 10*.

¹²⁶ Email From: Joellen L. Russell; To: Jana Goldman; Date: April 10, 2006; Subject: Southern Ocean "Oven Door" paper warming *GAP August 9, 2006, part 3 NOAA FOIA response pg. 733-34*.

models to quantify the large and growing influence of the Southern Ocean on climate.... Therefore, we think this paper is worthy of a press release.

Russell went on to note that “the PR people here are also interested in putting out a press release.” In declining the request, Jana Goldman responded on April 10, 2006, “the lead author’s organization/agency usually takes the lead in issuing releases.” Nonetheless, as recently as October 13, 2006, NOAA issued a press release for a GRL publication co-authored by Jason Dunion, an AOML hurricane researcher.¹²⁷ The paper discussed how hurricane activity was influenced by dust clouds (as opposed to global warming). The press release itself clearly stated, “The lead author is Amato Evan of the University of Wisconsin-Madison.”

By early 2005 Dr. Richard Feely of NOAA’s Pacific Marine Environmental Laboratory (PMEL) and colleagues at NOAA, USGS, and outside the government had begun organizing a national workshop of invited specialists on the “Impacts of Increasing CO₂ on Coral Reef Organisms and Other Marine Calcifiers” to take place April 18-20, 2005.¹²⁸ On January 5, 2005, Feely wrote Jana Goldman, “since NOAA has a major role is [sic] protecting critical marine ecosystems including coral reefs, NOAA is a major sponsor of this workshop [it] would be great if we could build up wide interest in this workshop through press releases from your office....”¹²⁹ On February, 16, he reiterated his request for a press release and added:

If you want to see what other country’s [sic] are saying about the impacts of CO₂ on Coral Reefs go to Google News and type in Carol Turley. She is the director of the Plymouth Laboratory in England and just participated in a major international conference on the Impact of Global Warming. Her presentation was picked up by all the major news organizations throughout the world with the obvious exception of the United States! I wonder why? The US has the second largest coral reef systems in the world and we can’t even read about what might happen to them if we keep going down the same path that we are. Hopefully, we can change that lack of understanding of this important impact in the US with [your] help at the workshop.¹³⁰

By March 7, Feely had provided Goldman with a draft release; however a review of NOAA’s online news release archives reveals that NOAA did not issue it.¹³¹

¹²⁷ Press release at <http://www.publicaffairs.noaa.gov/releases2006/oct06/noaa06-076.html> (last visited on March 23, 2007).

¹²⁸ Email From: Richard Feely, To: Jana Goldman, Date: Jan. 5, 2005, Subject: Workshop on Impacts of Increasing CO₂ on Coral Reef Organisms and Other Marine Calcifiers *Thacker complete NOAA FOIA response pg.1.*

¹²⁹ *Ibid.*

¹³⁰ Email From: Richard Feely, To: Jana Goldman, Date: February 17, 2005; Subject: [Redacted] *Thacker complete NOAA FOIA response pg. 8*

¹³¹ Email From: Richard Feely, To: [redacted], Date: March 7, 2005; Subject: Calcification Workshop – Press Opportunities *Thacker complete NOAA FOIA response pg.17.*
<http://www.publicaffairs.noaa.gov/releases2005/>. To their credit, USGS issued a press release announcing the workshop on April 11, 2005. <http://www.usgs.gov/newsroom/article.asp?ID=690>

Later that year, Feely co-authored a paper that was published in *Nature* and detailed the acidification of oceans through increasing CO₂ in the atmosphere.¹³² This phenomenon is expected to affect all organisms producing calcium carbonate parts, including corals, and because these form the base of the food chain, continuing CO₂ emissions could lead to mass marine extinctions. According to Feely's colleague, Tans, Jana Goldman had prepared a press release with the assistance of NOAA scientists to coincide with the publication of the paper; however it never made it past the "higher-ups."¹³³ "It appeared that NOAA didn't want to be associated with it, even though they had reason to be proud of a good paper," Tans explained. "The association of ocean acidification with high atmospheric CO₂ is about as solid as it gets." At about the same time, Goldman sought guidance from the PAO headquarters about media efforts for a similar report that arose from a workshop co-sponsored by NOAA and of which two out of the six authors, including Feely, were NOAA PMEL researchers.¹³⁴ When the report summarizing the way "worldwide emissions of carbon dioxide from fossil fuel burning are dramatically altering ocean chemistry and threatening marine organisms" was released on July 5, 2005, NOAA issued no press release.¹³⁵

NASA

The trajectory of media policies and practices seems to have followed a similar path across agencies. Sid Perkins, a reporter for *Science News* since July 2000, recalled that:¹³⁶

Once upon a time, there was no real problem with access. As little as 2 years ago, I encountered only occasional problems. It was About [sic] 2 years ago when I first noticed problems (i.e., scientists preferring not to talk until their PR folks had been apprised) -- not in all cases, mind you, just a few. Scientists at the U.S. Geological Survey got antsy about media contacts about then, which was about the same time that news reports about restrictions on media contacts at HHS were first reported. I first heard news of the same thing at NASA at about the same time.

¹³² "Anthropogenic ocean acidification over the twenty-first century and its impact on calcifying organisms," *Nature* 437, 681-686 (September 29, 2005).

¹³³ Pieter Tans, interview with Maassarani (March 9, 2006) *record on file with GAP*. See also Email From: Feely; To: [redacted]; Date: August 29, 2005; Subject: Pre-proofed Nature paper -- Orr nature04095 Thacker complete NOAA FOIA response pg. 84.

¹³⁴ Email From: Goldman; To: St. John, Smullen; Date: December 15, 2005; Subject: Ocean Acidification Report Thacker complete NOAA FOIA response pg. 163-64.

¹³⁵ Compare <http://www.ucar.edu/news/releases/2006/acidification.shtml> (last visited on March 23, 2007) with NOAA's media archives <http://www.publicaffairs.noaa.gov/releases2006/> (last visited on March 23, 2007). Interestingly, USGS, which also sponsored the workshop and contributed one of the report's authors, similarly issued no release. See

http://www.usgs.gov/newsroom/article_archive.asp?CurPage=7&Year=2006 (last visited on March 23, 2007). More on USGS and other agencies in the next section.

¹³⁶ Sid Perkins, communications with Maassarani (October 5, 2006) *record on file with GAP*.

Some scientists ignore these policies, but increasingly many of them aren't; again, I don't know whether they feel such policies are a blessing (i.e., an excuse not to talk to the media) or a curse.

My federal science contacts aren't decreasing per se. (FYI: The magazine that I write for covers science news for the layman, and we get the vast majority of our news from peer-reviewed journals [maybe 80 percent or so]. Much of the rest is basic research that's done comes [sic] by government agencies such as EPA, NASA, DOE, etc. In many cases, however, there's some overlap; rather than publication via a mere press release, the government research is also being reported in journals or at meetings and conferences as well. However, in some cases it's increasingly easier for me to contact a university source/co-author rather than a government one, if given the choice, just due to the roadblocks that government PR folks can and do create.

Don't know if all of these policies stem from an unstated mission to restrict media access to government data or not; hopefully, your research will find out. The policies certainly seem to have cropped up among a wide variety of agencies at or near the same time. Much of the types of research that we cover is basic science that's publicly funded, conducted by researchers who are partially (or in many cases fully) paid by government agencies, so access should be as unfettered as possible, as far as I'm concerned.

In an October 26, 2004, article, NASA climate scientist and director of the Goddard Institute for Space Science (GISS), Dr. James Hansen, told the *New York Times* that then NASA Administrator Sean O'Keefe asked him not to discuss the dangerous consequences of climate change.¹³⁷ In a lecture at the University of Iowa that same day, Hansen elaborated:¹³⁸

In my more than three decades in the government, I have never seen anything approaching the degree to which information flow from scientists to the public has been screened and controlled as it is now. I am referring specifically to research on climate change that yields results of possible public interest that would likely be interpreted as being relevant to policy considerations on climate change.

Yet things seemed to get worse. Dr. Jerry Mahlman recalls, "in late 2005, I got a call from Jim saying that what I had described to him [happening at NOAA] the previous May was now happening to him, within NASA."¹³⁹ What had brought about such changes for NASA's leading climate scientists? In December 2005, Hansen presented a

¹³⁷ Andrew Revkin, "NASA Expert Criticizes Bush on Global Warming," *The New York Times* (October 26, 2004); Tom Yulsman, "Political interference with science real, troubling," *The Denver Post* (August 21, 2005).

¹³⁸ Distinguished Public Lecture Series at the Department of Physics and Astronomy, University of Iowa (October 26, 2004) available at http://www.columbia.edu/~jeh1/dai_complete.pdf (last visited on March 23, 2007).

¹³⁹ Jerry Mahlman, interview with Maassarani (April 6, 2006) record on file with GAP.

lecture on the importance of reducing emissions at the American Geophysical Union and also announced on ABC News that data showed 2005 to be the “warmest year on record.” Subsequently, the NASA PAO told Hansen that there had been a “storm of anger at headquarters” and threatened him with “dire consequences” if he kept making similar remarks.¹⁴⁰ According to GISS press officer Leslie McCarthy, George Deutsch rejected an interview request for Hansen from NPR, “the most liberal” media outlet, because it would undermine his job of “mak[ing] the President look good.”¹⁴¹

NASA is generally deemed more flexible than NOAA because there is no extra department with which public relations must be coordinated.¹⁴² Indeed, NASA’s media policy and practices were originally based on 1987 regulations found in 14 CFR 1213, which entail no pre-approval requirements for media interviews.¹⁴³ Nevertheless, already years before Hansen came under fire, an internal memorandum demonstrated that these regulations had been overlain with a new media policy mandating pre-approval, intake, and routing by NASA headquarters.¹⁴⁴ Other restrictive practices also developed, often without being put into writing, such as monitoring or dress rehearsals for press conferences.¹⁴⁵ According to Hansen, scientists participating in such rehearsals were told it was unacceptable to share certain scientific conclusions. Elvia Thompson, a former PAO employee at NASA, has commented that there was a “general understanding” that “climate change” was to be used in place of “global warming.”¹⁴⁶ Indeed, media policies

¹⁴⁰ James Hansen, interview with Maassarani (February 2006) *record and internal memo on file with GAP*. As of noon of March 16, 2006, 285 NASA scientists and engineers had signed a “Statement of support for NASA’s commitment to openness.” The statement “fully supports Dr. Hansen in his professional capacity to continue alerting the public about global warming” and encourages “all NASA affiliated scientists and engineers to openly present their expertise for the public good.” See <http://support-letter.umi.acs.umd.edu:8080/hansen/index.jsp> (last visited October 2006).

¹⁴¹ In a June 6, 2006, letter to Senator Susan Collins (D-ME), Brian Chase, Assistant Administrator of NASA’s Office of Legislative Affairs, admitted this request had been “inappropriately declined.” *available at* <http://lieberman.senate.gov/documents/letters/060606nasaliebermanresponse.pdf> (last visited on March 23, 2007). An October email message from Deutsch also shows that he told a NASA web designer to add the word “theory” after every mention of the “Big Bang,” adding that “It is not NASA’s place, nor should it be to make a declaration such as this about the existence of the universe that discounts intelligent design by a creator.” Deutsch, resigned on February 7, 2006, after it was discovered that he had not actually graduated from Texas A&M University as asserted on his resume. Andrew Revkin, “A Young Bush Appointee Resigns his Post at NASA,” *The New York Times* (February 8, 2006).

¹⁴² Jana Goldman, interview with Maassarani (October 7, 2006) *record on file with GAP*. Due to its mission statement emphasizing education, NASA can also spend 10% of its budget on outreach.

¹⁴³ Letter From: Brian Chase; To: Collins; Date: June 6, 2006.

¹⁴⁴ James Hansen, interview with Maassarani (February 2006) *record and internal memo on file with GAP*. According to one anonymous UCS survey respondent “Another issue: PA offices discouraging access to certain scientists and promoting contact with more “convenient” scientists (again this happens at NOAA and EPA); PA officers making decisions on scientist availability for media requests without consulting scientists and indeed in one instance that happened to me, canceling an interview on CNN that had already been agreed with the statement “the agency has no one available to discuss X at this time!!” Survey of Federal Climate Scientists, UCS Scientific Integrity Program (2006) NASA commentary.

¹⁴⁵ Drew Shindell, communications with Maassarani (May 25, 2006) *record on file with GAP*. Shindell’s work was significant because skeptics have often pointed to warming trends in the Arctic to counter global warming theories. Shindell’s research suggested an explanation and reversal of this warming phenomenon.

¹⁴⁶ Andrew Revkin, “Call for Openness at NASA Adds to Reports of Pressure,” *The New York Times* (February 16, 2006).

and practices were selectively implemented to target sensitive research such as on climate change being reported to national media outlets.¹⁴⁷

In the Iowa lecture, Hansen disclosed an internal NASA memo about a delayed press release for which the cited justification was:¹⁴⁸

According to HQ, there's a new review process that has totally gridlocked all earth science press releases relating to climate or climate change. According to HQ Public Affairs, 2 political appointees, [redacted] and the White House are now reviewing all climate related press releases.

Indeed, it became standard for then Assistant Administrator for Public Affairs Glenn Mahone and his deputy, Dean Acosta, at NASA headquarters – as well as the White House – to review press releases dealing with the keywords “global warming.”¹⁴⁹ At times this added a delay of weeks or months to what was usually a three to seven day process, which resulted in scientists simply giving up or in rendering stories – such as the 2005 record-setting temperatures had Hansen not disclosed it – largely obsolete.¹⁵⁰ Furthermore, according to an inside source, 12-15 press releases simply “disappeared,” mostly in the weeks leading up to the 2004 elections.¹⁵¹ Some were “smothered” or “watered down to inconsequence” by NASA headquarters.

A widely-publicized incident occurred on April 28, 2005, when Columbia University's Earth Institute issued a press release announcing the publication of Hansen's *Science Express* article. The press release described Hansen's ominous findings that the earth's energy is out of balance and referred the inquiring public to the NASA website for

¹⁴⁷ Anonymous scientist, interview with Jennifer Freeman (June 27, 2006) *record on file with GAP*. Note that the typical recourse for mismanagement of this sort is notification of the agency's inspector general. Sixty-two federal agencies have inspectors general authorized by the Inspector General Act of 1978 as “independent and objective units” to “promote economy, efficiency and effectiveness” and investigate “fraud and abuse.” Notwithstanding, Robert W. Cobb's tenure as NASA IG since his presidential appointment to the position in 2002 was recently subject to a federal probe. The findings of the 10-month investigation have not officially been made public while under review by the President's Council on Integrity and Efficiency. According to the *Orlando Sentinel*, which obtained a leaked copy of the report, it “outlines allegations that he stifled investigations, mistreated department employees and maintained a close personal relationship with top officials of the agency he was supposed to independently monitor.” Michael Cabbage, “Complaints Fuel Probe of NASA Inspector,” *Orlando Sentinel* (November 20, 2006). The President's Council has agreed to provide the report to the House Committee on Science and Technology's Subcommittee on Investigations and Oversight by April 2, 2007. See press release, “administration Agrees to Hand Over Investigative Report on NASA's Inspector General,” (March 6, 2007) available at <http://science.house.gov/press/PRArticle.aspx?NewsID=1708> (last visited on March 24, 2007).

¹⁴⁸ Distinguished Public Lecture Series at the Department of Physics and Astronomy, University of Iowa (October 26, 2004) available at http://www.columbia.edu/~jeh1/dai_complete.pdf (last visited on March 23, 2007).

¹⁴⁹ Anonymous public affairs officer, interview with Maassarani (May 10, 2006) *record on file with GAP*.

¹⁵⁰ Drew Shindell, communications with Maassarani (May 25, 2006) *record on file with GAP*. Rosemary Sullivan, writer at NASA, reported efforts to delay or alter news releases concerning the Jet Propulsion Lab. Andrew Revkin, “Call for Openness at NASA Adds to Reports of Pressure,” *The New York Times* (February 16, 2006).

¹⁵¹ Anonymous public affairs officer, interview with Maassarani (May 10, 2006) *record on file with GAP*.

more information and images that would be posted after 2:00 p.m. However, the NASA posting was not forthcoming until the next morning, following significant media buzz and a presidential press conference. Furthermore, what is essentially the same press release as that of the Earth Institute, reveals slight language changes that downplay the significance and gravity of Hansen's conclusions.¹⁵² News releases in the NASA online press release archives show that the number of such press releases drop from about four dozen in 2004, to one dozen in 2005, to eight in 2006.¹⁵³

In mid-September 2004, Dr. Drew Shindell, an ozone specialist and climatologist at GISS, submitted a press release to the Goddard Space Flight Center (GSFC) PAO to announce the publication of their *GRL* paper.¹⁵⁴ Together they came up with the title "Cool Antarctica may warm rapidly this century, study finds," which political appointees at headquarters then asked to be "softened." Nonetheless, HQ rejected the next suggestion that Shindell and GSFC offered – "NASA Scientists expect temperature flip-flop at the Antarctic" – and titled it "Scientists predict Antarctic climate changes" over Shindell's objections. Not surprisingly, Shindell commented that it generated relatively little media interest. Another senior climate researcher told us how she worked with the NASA PAO to get a press release out about climate-related floods' impact on agriculture, but it was not approved at higher levels. She eventually got high-level colleagues to lobby on her behalf, and it was then approved.¹⁵⁵

In the months prior to the 2004 elections, *The New York Times* reported that Mahone told Gretchen Cook-Anderson, formerly in charge of earth-science news at NASA, that a news conference on data from a satellite measuring ozone and air pollution "should not take place until after the election."¹⁵⁶ In a February 4, 2006, article, Revkin went on to write:

Repeatedly that year, public-affairs directors at all of NASA's science centers were admonished by White House appointees at headquarters to focus all attention on Mr. Bush's January 2004 "vision" for returning to the Moon and eventually traveling to Mars.

¹⁵² Blog by Chris Mooney, "More on the NASA Press Release" (May 2, 2005) at <http://www.chrismooney.com/blog.asp>. For example, the NASA release completely omits the quote "'This energy imbalance is the 'smoking gun' that we have been looking for,' says James Hansen..." and a paragraph on the policy implications of the research. It fails to include the explanation of "thermal inertia," but adds "As the Earth warms it emits more heat. Eventually the Earth will be back in balance, if the greenhouse gas emissions are kept at the same level of today."

http://www.nasa.gov/vision/earth/environment/earth_energy.html.

¹⁵³ See <http://www.nasa.gov/audience/formedia/archives/2006-all-archives.html> (last visited October 2006); Andrew Revkin, "Call for Openness at NASA Adds to Reports of Pressure," *The New York Times* (February 16, 2006).

¹⁵⁴ Drew Shindell, communications with Maassarani (May 25, 2006) *record on file with GAP*. GISS is a small branch of GSFC and thus collaborates with GSFC PAO, as well as NASA HQ.

¹⁵⁵ Anonymous scientist, interview with Jennifer Freeman (June 27, 2006) *record on file with GAP*.

¹⁵⁶ Andrew Revkin, "Call for Openness at NASA Adds to Reports of Pressure," *The New York Times* (February 16, 2006).

Starting early in 2004, directives, almost always transmitted verbally through a chain of midlevel workers, went out from NASA headquarters to the agency's far-flung research centers and institutes saying that all news releases on earth science developments had to allude to goals set out in Mr. Bush's "vision statement" for the agency, according to interviews with public-affairs officials working in headquarters and at three research centers.

Many people working at Goddard Space Flight Center in Greenbelt, Md., and the Jet Propulsion Laboratory in Pasadena, Calif., said that at the same time, there was a slowdown in these centers' ability to publish anything related to climate.

EPA and the Department of Interior

The 2002 *Journal of the Society of Environmental Journalists* published a poll by its First Amendment Taskforce of the regional EPA media policies.¹⁵⁷ The survey found considerable variation, ranging from monitors and routing to simple encouragement of PAO coordination. Few regions came up with up-to-date written policies. Anecdotally, the survey found that access had been more difficult during the Bush administration. This was underscored prior to the 2004 elections when Public Employees for Environmental Responsibility (PEER), a public watchdog group, released a memo from then acting Region V Administrator Bharat Mathur stating, "If you receive any request for information or an interview from a member of the media, you should refer the caller to OPA [i.e. PAO] Please refrain from answering such inquiries directly. OPA will determine the appropriate response and who should respond after consultation with program staff, and if necessary, after elevating issues for senior-level attention."¹⁵⁸ In 2006, PEER published another leaked memo to all Office of Research and Development staff dated February 2, which stated "We are asked to remind all employees that EPA's standard media procedure is to refer all media queries regarding ORD to Ann Brown, ORD News Director, prior to agreeing to or conducting any interviews.... Support for this policy also will allow reasonable time for appropriate management response."¹⁵⁹

On June 20, 2006, Cornelia Dean of *The New York Times* reported that James Titus, EPA project manager for sea level rise, was no longer allowed to publicly discuss issues such as beach erosion, and that all such questions were to be routed to the EPA's press office.¹⁶⁰ Aries Keck, producer of the Earth Beat radio show, described arranging an interview with Titus as a "challenging and bizarre experience."¹⁶¹ EPA public affairs

¹⁵⁷ Audrey Cooper, "SEJ survey finds EPA information policies vary by region," *Journal of the Society of Environmental Journalists* (Fall 2002) on file with GAP. The survey excludes EPA PAO headquarters.

¹⁵⁸ Memorandum by Bharat Mathur (undated) on file with GAP.

¹⁵⁹ Email From: Ann Brown; To: ORD-ALL; Date: February 9, 2006; Subject: Media Procedure Reminder on file with GAP.

¹⁶⁰ Cornelia Dean, "Next Victim of Warming: The Beaches," *The New York Times* (June 20, 2006). Around the same time, two other reporters were told that Titus was not available for interviews, and were directed to the EPA PAO instead. Rick Piltz, "EPA's global warming communication problem - I. Censored expertise," *ClimateScienceWatch.org* (June 27, 2006).

¹⁶¹ Aries Keck, interview with Maassarani (June 20, 2006) record on file with GAP.

officials told her there were to be no contacts with Titus ahead of time and that up until the day before it was unclear whether he would be available for the interview at all. When asked about these hurdles on the show, Titus responded that, "to be honest I don't know anything about it. I just heard about the interview and here I am." As to whether he could discuss the regulation of carbon dioxide, Titus replied, "I'm not allowed... I can't talk about what we should do as regards regulations because it's sort of a different aspect... Since I'm here as an EPA employee I gotta basically stick to my lane which is rising sea levels."¹⁶²

Another government agency tasked with climate research is the United States Geological Survey, a bureau in the Department of Interior (DOI). Dr. Christopher Milly is a USGS research hydrologist, stationed at GFDL to work more closely with its climate scientists and computer models.¹⁶³ He studies the interaction of climate with the global water cycle, analyzing how climate change affects local water supply and floods.¹⁶⁴ In a May 5, 2006, interview, Milly asserted "within the USGS everybody's trying to do the right thing. Our management is trying to protect the scientific message and objectivity of our scientists." Nonetheless, Milly has heard that personnel in USGS public affairs consider climate change and energy to be "hot-button" issues for the administration, and that reference to such sensitive issues, outside of scientific papers, are thus handled and edited with care. Incidentally, the USGS Survey Manual requires approving officials to "alert appropriate offices (including the Office of Communications) or officials with regard to policy-sensitive or high-visibility information products that are likely to be of interest or potentially controversial to the Bureau, the Department of the Interior, other Federal agencies; State, local, and/or Tribal governmental organizations; the scientific community; the public; or a specific industry or interest."¹⁶⁵

Milly has experienced two incidents of interference with press releases.¹⁶⁶ The first case was in 2002 when a USGS press officer indicated that the subject matter was

¹⁶² Problems of scientific integrity are longstanding at EPA, which must function simultaneously as a regulatory and science agency. The EPA Inspector General released a report on August 16, 2006, citing two earlier studies, which contended that the EPA "has become affected by politics." *Studies Addressing EPA's Organizational Structure No. 2006-P-00029* (August 16, 2006), available at http://www.peer.org/docs/epa/06_24_8_ig_report.pdf (last visited on March 23, 2007). On September 29, 2006, representatives from more than 10,000 EPA scientists called on Congress to take immediate action against global warming and the censorship of agency scientists and other specialists on topics of climate change and the effects of air pollution. PEER press release, "EPA Scientists File Mass Petition For Action On Global Warming" (November 29, 2006) available at http://www.peer.org/news/news_id.php?row_id=789 (last visited on March 23, 2007).

¹⁶³ Christopher Milly, interview with Maassarani (May 5, 2006) *record on file with GAP*.

¹⁶⁴ The big picture conclusions that can be drawn from these models include that water scarce areas are projected to get drier and vice versa. In North America, the Southwest is projected to be drier (expected 10-20% reduction of stream flow by 2050, with similar projections for the Mediterranean region including Southern Europe and the Middle East), while results for the Mid-West are less clear. According to these models, the Eastern seaboard (as well as Alaska, Canada, Northern Europe, and Asia) will get wetter. On the basis of his research, his opinion is that subtropical decreases in rainfall and runoff may be more driven by globally-forced climate change than by over-grazing or slash-and-burn agriculture. *Ibid*.

¹⁶⁵ *USGS Survey Manual* chapter 502-4 6.D: Fundamental Science Practices: Review, Approval, and Release of Information Products.

¹⁶⁶ Christopher Milly, interview with Maassarani (May 5, 2006) *record on file with GAP*.

sensitive and could cause problems at the White House. DOI declined to issue the release, arguing that it would probably be released by *Nature*. In fact, though *Nature* did issue a release, its decision to do so only occurred after Interior's denial. The second case was in November 2005, when the press release went out but only after the PAO had tweaked and removed words such as "global warming," leaving the scientific content intact but possibly lowering its visibility. In this case, the corresponding paper showed how climate models developed by the international climate science community have predictive skill for dealing with climate change-influenced water availability.

Milly does not know who made the ultimate decision in either case. His only direct contact with (non-USGS) Department of Interior personnel was at a climate-related 2006 meeting between the USGS and the Bureau of Reclamation, attended by Mark Limbaugh, assistant secretary for water and science, and members of his staff.¹⁶⁷ Milly recalls that in the all-day meeting discussing climate change and its consequences for water resources, Limbaugh was engaged and left no negative impressions. Nevertheless, just as with NOAA's relationship to the Department of Commerce, confidential sources outside USGS have blamed DOI political appointees for pulling the strings on sensitive climate issues.¹⁶⁸

The Department's position towards climate change was recently demonstrated when Secretary of the Interior Dirk Kempthorne proposed listing polar bears as a threatened species while rejecting the analysis in a report by U.S. Fish and Wildlife Service (USFWS) scientists of the relationship between the loss of the polar bears' critical sea ice habitat and climate change.¹⁶⁹ Shortly thereafter, *The New York Times* reported on a leaked directive circulated to biologists and wildlife officials in USFWS' regional Alaska division.¹⁷⁰ Under the words "Foreign Travel – New Requirement – Please Review and Comply, Importance: High," a cover letter to two example memoranda reads:¹⁷¹

¹⁶⁷ *Ibid.*

¹⁶⁸ Anonymous scientist, interview with Maassarani (July 19, 2006) *record on file with GAP*. According to one anonymous respondent in the UCS survey:

I am a researcher at USGS. Generally, research within our research group and choice to pursue to publish new climate related issues is driven at the scientist level. [???] restrictions on agency approval of abstracts, public statements and report review have been implemented. As scientists, we do not believe that this was initiated by agency managers, but rather implemented by the Dept. of Interior and the Bush administration. The new rules are somewhat restrictive, and more importantly, serve to delay dissemination of new information."

Survey of Federal Climate Scientists, UCS Scientific Integrity Program (2006) USGS commentary.

¹⁶⁹ "Interior Secretary Kempthorne to List Polar Bears as Threatened Under Endangered Species Act," Department of Interior Press Release (December 27, 2006) *available at* http://www.doi.gov/news/06_News_Releases/061227.html (last visited on March 23, 2007)

¹⁷⁰ Andrew Revkin, "Memos Tell Officials How to Discuss Climate," *The New York Times* (March 8, 2007).

¹⁷¹ FWS memorandum To: FW7 All Users; Subject: Foreign Travel – New Requirement – Please Review and Comply; Date: March 2, 2007.

Please be advised that all foreign travel requests (SF 1175 requests) and any future travel requests involving or potentially involving climate change, sea ice, and/or polar bears will also require a memorandum from the Regional Director to the Director indicating who'll be the official spokesman on the trip and the one responding to questions on these issues, particularly polar bears, including a statement of assurance that these individuals understand the administration's position on these issues.

Below are copies of two memorandums we recently prepared. The first example (FT Hohn) would be an example you could use for someone traveling to a region where these items could be a potential discussion item. The second example (FT Approval Perham) is an example of a justification we recently prepared where the traveler who will specifically be dealing with these issues. Please note you will need these memo's/justifications for all trips to areas where these could be discussion items (i.e. Canada, Russia, Norway, any northern country).

Please ensure any foreign travel requests coming forward that pertain to these issues, or traveling to these potential areas, have this memorandum in the package. Thanks!

SCIENTIFIC COMMUNICATIONS WITH CONGRESS

When it comes to scientific uncertainties with such profound policy implications as climate change, Congress typically establishes and funds science agencies and programs for the purpose of presenting its membership with the best possible science to inform policymaking. Communication of scientific research to Congress is thus a vital agency function and includes congressional testimony, post-hearing questions and answers (“questions for the record”), technical drafting assistance, and congressionally-mandated reports. Due to its audience of policy-makers, these communications can be highly “threatening” when an administration’s position and policy agenda may be perceived as inadequately responsive to the implications of the science being communicated.

Shortly following the release of the official 2004 media policy, NOAA issued the second edition of its “Procedures Manual for Congressional Communications.”¹⁷² Unlike media contacts, congressional communications can be long, elaborate, and formal; this is reflected in the structure of the 18-page policy. The Office of Legislative Affairs (OLA) is responsible for coordinating congressional communications, including input, review, and clearance by relevant parties. Every type of scientific communication covered in the manual requires clearance by the Department of Commerce (DOC) and, with the exception of congressionally-mandated reports, the Office of Management and Budget (OMB). Housed within the Executive Office of the President, OMB oversees federal agencies with the stated mission of ensuring “that agency reports, rules, testimony, and proposed legislation are consistent with the President’s Budget and with administration policies.”¹⁷³

For example, in the case of congressional testimony, the policy states that:

OLA will coordinate NOAA headquarters review and clearance of the testimony and obtain clearance from DOC and the Office of Management and Budget.... OLA will address all clearance comments received from DOC and OMB. Edits and comments not related to policy issues will be handled directly by OLA. When, in the opinion of OLA, clearance comments involve a policy issue, OLA will make every effort to obtain the views of the NOAA witness or a policy official designated to act on behalf of the witness.

From the language of the policy, there seems to be no guidance or limitations on the kinds of edits and comments considered appropriate, or when edits and comments involve a policy issue – especially in the context of scientific information. In practice this policy seems to afford the DOC, OMB, and NOAA management a great deal of latitude in the political review and alteration of scientific content.

¹⁷² *NOAA Procedures Manual for Congressional Communications* (second edition, September 2004) on file with GAP.

¹⁷³ See <http://www.whitehouse.gov/omb/organization/role.html> (last visited on March 23, 2007).

Testimony and Talking Points

From the perspective of a NOAA lab director, OLA “tend[s] to want to rework the languages of presentations that will be given and [want to] be controlling.”¹⁷⁴ However, according to an inside source, after drafting administration position papers or congressional Q&As in consultation with the scientific experts or their lab directors, these documents are handed up from OLA to the “policy shop,” housed within the Office of the Undersecretary and to personnel in the Assistant Secretary’s Office.¹⁷⁵ Especially when the subject matter is considered sensitive, according to our source, it is edited to downplay certain conclusions, exaggerate uncertainty, and distort the science while also trying to maintain credibility. “Realizing that it is pointless, OLA has often stopped asking certain scientists about what to write in certain circumstances as they are certain to get completely rewritten anyway.”¹⁷⁶

Two points of contact in the review frequently associated with these offices are Jennifer Sprague, policy advisor and congressional affairs specialist in the Office of the Undersecretary, and Dr. Ahsha Tribble, former technical chief of staff and assistant to the retired DOC Assistant Secretary James Mahoney.¹⁷⁷ GAP’s requests to speak with either contact were not responded to. According to our source, “Jennifer Sprague regularly joined conference calls relating to congressional hearings and does not announce that she has joined, except maybe at the end of the call.” Nonetheless, our source adds:

It is very hard to trace who is initiating certain types of changes. Once an answer (“the administration’s position”) is developed to a particular question, everyone knows that the answer has to be used again whenever the topic is addressed again in the future. It is hard to tell who has developed “the administration’s position” and once it is developed, it is everyone’s job to make sure that all materials are consistent with that position.

Consider an unpublished internal document that, according to our source, emerged recently from the policy shop and that the FOIA record ties to Tribble.¹⁷⁸ It appears that this unpublished internal document was finished by February 2006 and approved at the highest political level in NOAA to prepare Administrator Lautenbacher and other NOAA representatives with an official set of talking points for use in fiscal year 2007 congressional budget hearings, climate hearings testimony, or climate briefings for congressional offices. On page 18 of the document, the Q&As deal with hurricanes

¹⁷⁴ Anonymous lab director, communications with Maassarani (October 19, 2006) *record on file with GAP*.

¹⁷⁵ Anonymous NOAA officer (May 6, 2006) *record on file with GAP*.

¹⁷⁶ *Ibid*.

¹⁷⁷ Tribble now serves as an executive officer in NOAA’s Tropical Prediction Center.

¹⁷⁸ OAR Q&As on various topics including “Abrupt Climate Change,” “Climate Change Science Project Budget,” “NOAA’s position on climate change,” “Transfer of Research to Operations/Application,” “Article on NASA Muzzling Scientists” (undated). *GAP August 9, 2006, part 3 NOAA FOIA response undated pg 26-75*; Email From: Tribble; To: Eric Webster; Date: February 13, 2006; Subject: NOAA Scientists *GAP May 30, 2006, NOAA FOIA response pg 48, 54-57*; and Email From: Merriam Norris; To: Tribble; Date: February 1, 2006; Subject: Q&A on muzzling scientists *GAP August 9, 2006, part 3 NOAA FOIA response pg. 583, 601*.

and climate change. In response to whether global climate change is responsible for the increased 2005 hurricane activity, the document states that “available research indicates increased hurricane activity can be explained by natural cycles....” Only later in the “background” is it admitted that available research, including from its own GFDL lab, indicates a possible small effect. Interestingly, hurricane and climate change Q&As obtained from summer 2005 more readily highlight that “there is not enough scientific evidence to determine whether the warming has increased the frequency of hurricanes” – though in doing so they ignore the issue of hurricane intensity.¹⁷⁹ By October 5, 2005, PAO talking points distributed to the Climate Program Office and the State Department read: “NOAA supports the view that there is no verifiable link between observed climate change and the intensity and frequency of the most recent Atlantic hurricane season.”¹⁸⁰ According to our source, “I remember that this was about the time NOAA HQ stopped asking for input from our scientists on the topic and the answers seemed to be coming from mysterious sources.”¹⁸¹

Another set of internal documents leaked to our investigation affirms that political editing reaches beyond the “mysterious sources” at NOAA senior management. The documents are draft responses to questions for the record (QFRs) submitted by Senators Daniel Inouye (D-HI) and Frank Lautenberg (D-NJ) following an April 26, 2006, Commerce, Science, and Transportation Committee hearing on “projected and past effects of climate change.”¹⁸² They include comments and edits from scientists and from the OMB, the Environmental Protection Agency, the Department of Energy, and the executive Office of Science and Technology Policy (OSTP) compiled by Noel Turner, the NOAA legislative affairs specialist in charge of coordinating clearance and review of congressional communications. In the first draft, suggested text from OMB attributed global warming to increasing water vapor, in reliance on a quote taken out of context from a scientific paper by Drs. Karl and Trenberth.¹⁸³ Comments by Dr. James Butler, Deputy Director of GMD, in a subsequent draft attempted to clarify that this is not what

¹⁷⁹ “Compiled Climate Change Q & A’s and Hurricane Q & A version 6-22-05 11am” on file with GAP.

¹⁸⁰ Email From: Smullen; To: Susan Povenmire; Date: November 3, 2005; Subject: press guidance on climate change & hurricanes *Thacker complete NOAA FOIA p. 144*.

¹⁸¹ To be sure, CEQ readily suggests agency talking points when communicating policy issues. Around August 2005, CEQ Chief of Staff Dr. Bryan Hannegan forwarded NCDC Director Tom Karl, by way of Ahsha Tribble, a set of talking points in anticipation of media attention surrounding three soon-to-be released papers on temperature trends that confirm global warming. The talking points laud the administration’s support of and commitment to climate change science. Email From: Ahsha Tribble; To: Laborde; Date: August 11, 2005; Subject: Suggested response Subject: NYT story on temperature trends *Thacker complete FOIA response pg. 68-71*.

¹⁸² “Tracked 4 26 06 Climate QFRs OMB-revisions” on file with GAP, “Tracked 4 26 06 Climate QFRs OMB” on file with GAP. Similarly, CEQ has reviewed and cleared congressional questions submitted to the EPA on climate change. Email From: Stanley Sokul; To: Philip Cooney; Date: May 29, 2003; Subject: FOR COMMENT – another EPA Q&A on climate change *available at* http://www.whitehouse.gov/ceq/foia/index4/arms_729.pdf (last visited on March 23, 2007).

¹⁸³ Inouye question #2, comments ADA4 and nt5, “Tracked 4 26 06 Climate QFRs OMB-revisions” on file with GAP, Anonymous NOAA lab director, interview with Maassarani (June 1, 2006) *record on file with GAP*.

was meant, but OMB seemed to insist on keeping the language. Finally, OMB appeared to accept a change to the language made by Karl himself.¹⁸⁴

In a later comment, OMB recommends removing the phrase, “[h]owever, healthy coral reef ecosystems are important to both the fisheries and tourism industries and negative impacts on these ecosystems could affect these industries” because it is deemed redundant and unnecessary after the opening sentence of the paragraph: “The full range and magnitude of the biological and biogeochemical effects of ocean acidification are still so uncertain that a reliable and quantitative estimate of the likely socio-economic effects is not yet possible.”¹⁸⁵

Comments and emails from other agencies also raise concerns about potentially inappropriate editing, although this may ultimately be a matter of scientific judgment. In comment 7 of the later draft, DOE proposed the following change of wording:¹⁸⁶

In addition to impacts resulting from ocean acidification, marine ecosystems will also respond to other climate- and human-induced stresses (e.g., increasing sea surface temperature, rising sea level, overfishing, etc.). It is difficult to determine the combined effect these stressors will have, and the precise timing of any impacts. The presumption in these statements is that any increases in sea surface temperature and sea level will be stressors of ocean systems, and by definition of the words stresses and stressors, will have an adverse impact on marine ecosystems. Suggest that the word ‘stresses’ and ‘stressors’ be replaced with a more neutral term such as ‘changes’ because there is still a relatively poor scientific understanding and limited scientific basis for predicting how ocean ecosystems, in general, will respond to changes in temperature, pH, and sea level.

A later question by Lautenberg asks what effect rapid climate change could have on extinctions, and how this contrasts with the effects of slower natural climate cycles.¹⁸⁷ The response given is “Yes, it would be fair to say that survival of many species during glacial cycling likely provides no assurance that there will be few extinctions as a result of warming.”¹⁸⁸ In turn, DOE has Turner make the following minor addition with the effect of completely undermining the original response:¹⁸⁹

As originally written, this sentence implies it is likely there will be more extinctions. Is this necessarily the case? Does the literature support this? (Indeed, one could argue (and some have) that in a warmer world there will be more biodiversity, not less.) Does this statement just apply to the oceans? Suggest inserting, if appropriate, the parenthetical phrase “(or more)” between “few” and “extinctions” in the sentence above.

¹⁸⁴ See Inouye question #2, comment ADA6, “Tracked 4 26 06 Climate QFRs OMB-revisions” on file with GAP.

¹⁸⁵ Inouye question #5, comment nt10, “Tracked 4 26 06 Climate QFRs OMB-revisions” on file with GAP.

¹⁸⁶ Inouye question #4, comments nt7, “Tracked 4 26 06 Climate QFRs OMB-revisions” on file with GAP.

¹⁸⁷ Lautenberg question #5, “Tracked 4 26 06 Climate QFRs OMB-revisions” on file with GAP.

¹⁸⁸ *Ibid.*

¹⁸⁹ *Ibid.* Comment nt25.

The response to this same question on extinctions continues with “[c]urrent climate conditions are reaching outside of the range (of temperature, precipitation, ocean pH, and atmospheric circulation) experienced during the glacial cycles.” DOE then has Turner change “are” to “may,” justifying the edit solely on the basis of temperature:¹⁹⁰

The recent NAS [National Academy of Sciences] study had “a high level of confidence” that global temps. [sic] are higher than at any time since 1600 but had “less confidence” in statements that global temps. are higher now than from 900 to 1600 and had “very little confidence” in statements of temps. prior to 900. If in NOAA’s view the NAS report reflects the latest scientific thinking on this issue, suggest changing “are” to “may be” to take this into account. Alternatively, keep “are” but start the sentence with “There is some evidence suggesting that current...”

The process for preparing and presenting written and oral testimony is slow and dominated by non-science staff and high-level management. It rarely allows research scientists to communicate directly and openly to Congress. When direct contact does take place, the agency has also imposed various restrictions. On March 29, 2004, Lautenbacher re-circulated a 2001 memorandum by then Commerce Secretary Donald Evans, which required all communications to be coordinated and monitored by the Office of Legislative Affairs.¹⁹¹ On April 15, 2005, presumably in response to a budget scandal with the failing National Polar-orbiting Operational Environmental Satellite System, NOAA Chief Financial Officer Maureen Wylie disseminated a memorandum to all NOAA employees applying the media policy to congressional communications.¹⁹² An October 2005 document obtained in our investigations set out procedures specific to direct and/or unplanned congressional communications. The policy requires that “information and materials” and “meetings or phone calls with congressional representatives or staff and presentations where congressional staff have been invited or can reasonably be expected to attend must be cleared through OAR headquarters and sent up through the NOAA Office of Legislative Affairs.”¹⁹³

A comparison of two emails involving congressional site visits to GFDL by New Jersey congressmen shows disparate treatment between Representative Rush Holt (D-NJ) and Senator Lautenberg.¹⁹⁴ Although GFDL is permitted to begin working “informally” on the invitation for the former, Jason Robertson, OLA congressional affairs specialist,

¹⁹⁰ *Ibid.* Comment nt26.

¹⁹¹ Email From: Lautenbacher, Date: March 29, 2004; Subject: Congressional Contacts Memorandum *Greenpeace select hurricane NOAA FOIA response* pg. 24.

¹⁹² From Maureen Wylie, Date: April 15, 2005; Subject: Communications with External Groups *NOAA GAP July 31, 2006, part 1 NOAA FOIA* pg. 34. According to an inside source, there has traditionally been little cooperation between the NOAA PAO and OLA, however this may change with the recent hiring of Randee Exler as OAR Communications Director.

¹⁹³ “110305 Procedures for Communicating with Congress (OARC)” *on file with GAP*.

¹⁹⁴ Email From: Brian Gross; Date: July 25, 06; Subject: Invitation to Rush Holt for a visit to GFDL and Email From: Jason Robertson, Date: October 5, 2006; Subject: NJ Senator *on file with GAP*.

outlines a “standard operating procedure” to be followed for Lautenberg.¹⁹⁵ This requires GFDL to inform OLA of “which research areas would the lab like to brief the Senator on; what is the relevance to the Senator; and how do they fit into NOAA’s priorities?” The email ends, “Also, I’m not sure from your message when you’re thinking about scheduling this visit; however, I would suggest aiming for the March or April 2007 recess. There are some pragmatic reasons for my recommendation, which I’d be glad to discuss....” Incidentally, Lautenberg sits on the Senate Commerce, Science, and Transportation Committee, which has jurisdiction over NOAA.

Congressional Reports

NOAA is the lead agency of the U.S. Climate Change Science Program (CCSP), an interagency effort to integrate federal research on climate and global change.¹⁹⁶ Formed in 2002, the CCSP incorporated oversight of both the longstanding U.S. Global Change Research Program (USGCRP) and President Bush’s 2001 Climate Change Research Initiative (CCRI), as well as responsibility for compliance with the requirements of the Global Change Research Act of 1990 (GCRA). The GCRA includes requirements for an annual report to Congress and the periodic publication of a ten-year strategic plan for the program. As such, the CCSP is responsible for producing *Our Changing Planet* (OCP), an annual report required by the 1990 Act, and has undertaken the development of 21 Scientific Synthesis and Assessment Reports (SARs) pursuant to a July 2003 *Strategic Plan*.

On June 1, 2005, Rick Piltz, Senior Associate in the CCSP Office, issued a memorandum to the CCSP principals explaining the grounds for his March 11, 2005 resignation.¹⁹⁷ Piltz wrote:

The problem is manifested especially at the points at which the key scientifically based assessments of climate change touch on the arenas of policymaking and research planning. The administration will not accept and use appropriately the findings and conclusions of the national and international climate assessments, and it hinders and even prevents the climate science program from doing so. In 14 years – 10 years working with the program and, before that, with the House Science Committee – I have seen the program and its leadership go through a lot of changes. Each administration has a policy position on climate change. But I have not seen a situation like the one that has developed under this administration during the past four years, in which politicization by the White House has fed back directly into the science program in such a way as to undermine the credibility and integrity of the program in its relationship to the research community, to program managers, to policymakers, and to the public interest.

¹⁹⁵ These procedures do not seem to be specified in the “Procedures for Communicating with Congress (OARC).”

¹⁹⁶ CCSP’s participating departments and agencies include NASA, DOC, EPA, NSF, DOE, USGS, USDA, HHS, DOI, DOD, DOS, DOT, USAID and the Smithsonian Institution. It is overseen by OSTP, OMB, and CEQ.

¹⁹⁷ Rick Piltz, memorandum on “On Issues of Concern About the Governance and Direction of the Climate Change Science Program” (June 1, 2005).

This politicization is manifested in how the high-level CCSP governance process works, especially in the relationship between administration political officials and agency program managers; in how climate science is expressed in program reports; and in how the programs "decision support," assessment, and communication functions are being framed and developed. There are numerous examples, and some indications that the situation may have worsened since the November 2004 election. I will focus on just a few of them that have been particularly significant in shaping my own view of the program, its direction and leadership, and thus in influencing my decision to object and resign.

Piltz went on to describe how the White House Council on Environmental Quality (CEQ) – most notably its Chief of Staff Philip Cooney, a non-scientist and former oil lobbyist – became inappropriately involved in program governance and editing of its reports in such a way as "to advance the administration's position on climate change politics and policy."¹⁹⁸ This included 100s of handwritten edits to the first and final drafts of the CCSP *Strategic Plan* and FY2003 OCP prior to clearance by CEQ for publication. A double-digit percentage of the alterations – which became widely publicized once leaked to and published by *The New York Times* shortly after Piltz' resignation – had the effect of weakening and slanting text about the state of scientific knowledge and introducing or exaggerating uncertainties.¹⁹⁹ Although many of these edits never made it into the published version due to significant push-back from CCSP management, they undoubtedly delayed the process and sent chilling signals to scientists and career bureaucrats. A few days after his role was widely reported in the media, Cooney resigned and took up a position that had already been secured for him at ExxonMobil.

¹⁹⁸ Piltz also notes the distasteful April 2002 "ouster" by Admiral Lautenbacher and OSTP Director John Marburger of Margaret Leinen, chair of the USGCRP. Earlier in February 2001, the National Resources Defense Council obtained a fax dated February 6, 2001 by ExxonMobil lobbyist Randy Randol to the CEQ urging the dismissal of IPCC chair Dr. Robert Watson and chief scientist at the World Bank, as well as OSTP Associate Director for Environment Dr. Rosina Bierbaum, Jeffrey Miotke of the State Department, and USGCRP senior scientist Dr. Michael MacCracken available at <http://www.nrdc.org/media/docs/020403.pdf> (last visited on March 23, 2007). Needless to say, the Bush administration blocked Watson's reelection as IPCC chairman, failed to renew Bierbaum's appointment to OSTP, and "harassed" Miotke out of the position. Letter From: MacCracken; To: Raymond (CEO of ExxonMobil); Date: September 26, 2002 available at <http://www.climate-science-watch.org/file-uploads/MacCracken-Exxon.pdf> (last visited February 2007). 32% and 15% of UCS survey respondents perceived or experienced, respectively, "[c]hanges/edits during review that change[d] the meaning of scientific findings." Survey of Federal Climate Scientists, UCS Scientific Integrity Program (2006) question #19.

¹⁹⁹ Andrew Revkin, "Bush Aide Edited Climate Reports," *The New York Times* (June 8, 2005); Anonymous NOAA director, interview with Maassarani (June 1, 2006) record on file with GAP; Rick Piltz, memorandum on "On Issues of Concern About the Governance and Direction of the Climate Change Science Program" (June 1, 2005). For an example of proposed CEQ text additions that selectively pick from the scientific literature to emphasize uncertainty, see Email From: Bryan Hannegan; To: Jeff Holmstead; Date: June 19, 2003; Subject: Climate Change Text Suggestions available at http://www.whitehouse.gov/ceq/foia/index3/arms_753.pdf (last visited on March 23, 2007).

Countering charges at a June 8, 2005, White House press briefing that Cooney's involvement and background may have been inappropriate, Scott McClellan states:²⁰⁰

He's one of many people who are involved in the interagency review process, including those 15 federal agencies, and the White House offices like the Office of Science and Technology Policy and the Council on Environmental Quality. And the Office of Science and Technology Policy is very ably led by Dr. Marburger; he is a well-respected scientist. And they are very involved in that interagency review process. And that office not only is involved in the review process, but signs off on these reports before they go out.

In his response to July 20, 2005, questions for the record (QFRs) from Senator John Kerry (D-MA), Dr. James Mahoney, director of CCSP by virtue of his position in NOAA, defended CEQ's proposed edits as appropriate and mere suggestions.²⁰¹ Testifying to the matter before the House Oversight and Government Reform Committee on March 19, 2007, Cooney acknowledged that some of the changes were made to "align these communications with the administration's stated policy on climate change."²⁰² He argued that he had had "the authority and responsibility to make recommendations to the documents in question, under an established interagency review process" and that these "recommendations" largely reflected the findings of a 2001 climate report by the National Academy of Sciences (NAS).²⁰³

Piltz credited Mahoney's behind-the-scenes support of scientists and his "push back" for the fact that many damaging edits never made it into the final publication. The few sources with a close professional relationship interviewed for these investigations believed that Mahoney, like many NOAA high-level managers, was under tremendous political pressure and may have at times faced difficult, often compromising, decisions pitting science against politics.²⁰⁴ On June 9, 2005, Representative Henry Waxman (D-CA) and Kerry requested a GAO investigation to evaluate the document changes and other efforts by White House officials and agency political appointees with regard to federally-funded climate science.²⁰⁵ This was followed by a similar request by Senators Lautenberg (D-NJ) and Harry Reid (D-NV) on June 29, 2005,²⁰⁶ and again by

²⁰⁰ See <http://www.whitehouse.gov/news/releases/2005/06/20050608-2.html#d> (last visited on March 23, 2007).

²⁰¹ QFRs from Senators Inouye, Kerry, Lautenberg, and McCain (July 20, 2005) *GAP August 9, 2006, part 2 NOAA FOIA response* pg. 27-48.

²⁰² Lauren Morello, "House probe turns to role of Cheney's office," *Environment and Energy Daily* (March 20, 2007); Josef Hebert, "Official defends editing of climate papers," *Associated Press* (March 19, 2007).

²⁰³ *Ibid.*

²⁰⁴ Anonymous NOAA director, interview with Maassarani (June 1, 2006) *record on file with GAP*; Jerry Mahlman, interview with Maassarani (April 6, 2006) *record on file with GAP*; Rick Piltz, interview with Maassarani (March 8, 2006).

²⁰⁵ Letter From: Kerry, Waxman; To: Comptroller General David Walker; Date: June 9, 2005 *available at* <http://oversight.house.gov/Documents/20050609150303-34992.pdf> (last visited on March 23, 2007).

²⁰⁶ Specifically, Lautenberg and Reid asked the GAO to "determine the legality of actions" taken by CEQ's Philip Cooney. Press release (June 29, 2005) including Letter to Walker *available at* <http://lautenberg.senate.gov/newsroom/record.cfm?id=254536&&> (last visited on March 23, 2007). According to a FOIAed email from Leah Harrelson, this caused panic at the DOC Office of Legislative and

Representative David Wu (D-OR) on May 2, 2006.²⁰⁷ These GAO investigations are still pending an outcome.

On July 20, 2006, under the leadership of Chairman Tom Davis (R-VA) and ranking member Henry Waxman, the House Government Reform Committee initiated an inquiry into these actions by the CEQ.²⁰⁸ By September 20, 2006, in response to CEQ protests that the document requests were too burdensome, the Committee had agreed to limit the time frame, the number of identified officials, and two out of five request criteria. In the following two months, "Committee staff was permitted to conduct an *in camera* review at CEQ offices of a select subset of the documents... that appear to contain evidence of a vigorous effort by senior administration officials to downplay the certainty and negative impacts of global warming."²⁰⁹ On January 30, 2007, however, Representatives Waxman and Davis wrote a letter to CEQ Chairman James Connaughton expressing their displeasure that – despite two extensions, a significant narrowing of the scope of their requests, and the identification of specific documents – the CEQ had largely tendered only redacted records previously made public under FOIA.²¹⁰ At a February 20 meeting, CEQ aides finally agreed to provide the committee one box of responsive documents per week.²¹¹ That same day, Citizens for Responsibility and Ethics in Washington, a nonprofit legal watchdog, filed a lawsuit against CEQ for failure to respond adequately to its FOIA requests.²¹²

The intense media scrutiny, increased Congressional oversight, and resignation of Philip Cooney seem to have produced a climate of greater trust and openness at the CCSP. According to scientists involved in the first Synthesis and Assessment Report released May 2, 2006, there were no inappropriate edits at the final stages of executive

Intergovernmental Affairs as it was around the time that four DOC nominees were to go through the Senate confirmation process. Email From: Harrelson; To: Wienecke, Cohen, Rayder, Mahoney, Tribble, Anderson; Date: June 30, 2005; Subject: Former White House Climate Change Official May Have Violated Federal Law Say Lawmakers (Press release, 29 June 2005) *GAP August 9, 2006, part 3 NOAA FOIA response pg. 290-98.*

²⁰⁷ Wu requested that the GAO "investigate reports of incidences and likely effects of imposing political litmus tests (unrelated to their work) for science appointees, the withholding, delay, or politically motivated editing of scientific reports, and the effects on freedom of inquiry for both federal and non-federal scientists." Press release (May 2, 2006) *available at* http://www.house.gov/apps/list/press/or01_wu/pr05022006GAO.html (last visited on March 23, 2007). On May 12, 2006, Wu and Representative Bart Gordon (D-TN) wrote President Bush a letter in which they stated, "At NOAA, the evidence is in that a monumental failure of leadership and management has occurred...We urge you to immediately intervene and replace [NOAA Administrator Conrad] Lautenbacher and [Deputy Undersecretary John J. Kelly, Jr.], holding them accountable for the dismal failure at NOAA." See http://democrats.science.house.gov/Media/File/AdminLetters/wh_noaa_dismissals_12may06.pdf (last visited on March 23, 2007).

²⁰⁸ Letter From: Davis, Waxman; To: Connaughton; Date: July 20, 2006, *on file with GAP*; Darren Samuelsohn, "House panel to review claims of White House censorship," *Greenwire* (July 20, 2006).

²⁰⁹ Henry Waxman, House Oversight and Government Reform Committee memorandum regarding CEQ documents (January 30, 2007).

²¹⁰ Letter From: Waxman; To: Connaughton; Date: January 30, 2007 *on file with GAP*; Letter From: Davis, Waxman; To: Connaughton; Date: September 20, 2006, *on file with GAP*.

²¹¹ Letter From Waxman; To Connaughton; Date: February 26, 2007 *on file with GAP*.

²¹² "CREW Sues Council on Environmental Quality Over Global Warming Documents," *U.S. Newswire* (February 20, 2007).

review, which resulted in a robust scientific product.²¹³ Indeed, as stated in the final prospectus for the report, issued February 2, 2005 – and reflecting similar language to the final prospectus of all subsequent reports – “if [upon review] the CCSP Interagency Committee determines that further revision is necessary, their comments will be sent to the lead agency for consideration and resolution by lead authors.”²¹⁴ The CCSP Interagency Committee comprises the NOAA Acting Director, thirteen agency principals, and executive office liaisons such as CEQ, OMB, and OSTP. The prospectus goes on to require clearance from the National Science and Technology Council (NSTC), whose comments “will be addressed by the CCSP Interagency Committee in consultation with the lead and supporting agencies and the lead authors.”²¹⁵

Nonetheless, reflecting the concerns of others in our investigation, Dr. Michael MacCracken – a senior scientist whose nine-year assignment with USGCRP ended in 2002 – continues to be cautious.²¹⁶ MacCracken notes that the official revised 2004 Guidelines for Producing Climate Change Science Program (CCSP) Synthesis and Assessment Products (SAPs) still fails to grant lead authors final review, violating at least the spirit of the Federal Advisory Committee Act (FACA).²¹⁷ In a lengthy letter to colleagues explaining his February 2005 resignation from the post as CCSP lead author for the U.S. State of the Carbon Cycle Report (SOCCR) SAP 2.2 on the North American Carbon Budget and Implications for the Global Carbon Cycle,²¹⁸ Dr. Eric Sundquist wrote that he:²¹⁹

couldn’t explain or defend to other scientists the new guidelines for government review and approval of the report as the authors of the study may not retain authority over the final content of the report... Further clarification is needed to determine what aspects of the report might be changed during the final review and approval process, and whether the authors’ independent scientific judgment will be retained.

As MacCracken points out – and on which basis he declined an invitation to review the SOCCR SAP – there are, with the 2004 Guidelines unchanged, no assurances

²¹³ Tom Wigley, interview with Maassarani (April 5, 2006) *record on file with GAP*. One source did reveal “an incident where one of the panel members, after agreeing to text in Chicago, apparently talked to political or other contacts in DC and forced the advisory committee to have a conference call and this led to some minor changes in the report’s abstract—so the way the report was influenced was through one of the members they had appointed to the panel.” Anonymous scientist, communications with Maassarani (June 4, 2006) *record on file with GAP*.

²¹⁴ See <http://www.climate-science.gov/Library/sap/sap1-1/sap1-1prospectus-final.htm#6> (last visited on March 23, 2007).

²¹⁵ *Ibid*.

²¹⁶ Mike MacCracken, communications with Maassarani (May 27, 2006) *record on file with GAP*.

²¹⁷ FACA aims to ensure the transparency and independence of information rendered by “[a]ny committee, board, commission, council, conference, panel, task force, or other similar group, or any subcommittee or subgroup thereof... which is... established or utilized by one or more agencies.” 5 U.S.C. App. 2 §3(2)(C).

²¹⁸ Note the carbon cycle chapter of the CCSP *Strategic Plan* lays out SOCCR as “a series of increasingly comprehensive and informative reports about the status and trends of carbon emissions and sequestration.” The first SOCCR report was also to serve as SAP 2.2.

²¹⁹ Letter from Sundquist to colleagues (undated) *on file with GAP*.

that the prospecti approved by the political appointees for the next Synthesis and Assessment, due in the second quarter of 2008 will retain adequate safeguards.²²⁰ Similarly Dr. Susan Solomon, a senior scientist at NOAA's aeronomy lab and co-chair of the IPCC, has stated that:

[A]uthors must have independence in their work if the reports are to be credible. Agencies, CCSP principals, OSTP, or others should not have oversight, and they certainly should not have a right of final review. Many people can and should participate in providing written review comments, but any oversight mechanisms should involve only distinguished scientists.

"Political editing" is not the only concern shared by Drs. MacCracken, Sundquist, Solomon, and others. Consider a paragraph from the SOCCR SAP 2.2 draft prospectus:²²¹

The funding award has been set up such that the U.S. Government will not exert management or control over the activities of the contractor nor will U.S. Government officials play a role in selecting authors, holding meetings, setting the agenda, or drafting the final report. NOAA has determined that this approach to produce SAP 2.2 does not require a FACA committee.

In June 2004, Sundquist and Dr. Lisa Dilling submitted their unsolicited proposal for SAP 2.2, one based on high stakeholder involvement and an open process.²²² Seven months later, managing officials of the CCSP Carbon Cycle Interagency Working Group "strongly urged" them to merge their submission with a draft proposal that had been prepared by a group from Oak Ridge National Laboratory (ORNL).²²³ The ORNL draft included an outline of the proposed contents and a list of suggested authors. Some of these authors had been recruited with assurances by ORNL scientists that the proposal was prepared "in response to encouragement from the Department of Energy."²²⁴ Contrary to Dilling and Sundquist's original unsolicited proposal, the final merged proposal was written in compliance with explicit guidelines from program managers that

²²⁰ Mike MacCracken, communications with Maassarani (May 27, 2006) *record on file with GAP*; SOCCR invitation letter from Koblinsky to MacCracken (April 26, 2006) *on file with GAP*.

²²¹ <http://www.climate-science.gov/Library/sap/sap2-2/sap2-2prospectus-final.htm> (last visited on March 26, 2007). Title 48, Code of Federal Regulations (CFR), Chapter 1, Federal Acquisition Regulations, Subpart 15.603(c) states "A valid unsolicited proposal must ... (3) Be prepared without Government supervision, endorsement, direction, or direct Government involvement."

²²² Eric Sundquist, interview with Maassarani (November 10, 2006) *record on file with GAP*.

²²³ *Ibid.* Note that the ORNL draft proposal was submitted to DOE. The DOE "Guide for the Submission of Unsolicited Proposals" states that "an unsolicited proposal may be accepted by DOE if it: ...is independently originated without Government supervision."

²²⁴ Email From Tom Wilbanks, To: Bob Harriss, Date: December 2003 *on file with GAP*, quoted in (and obtained in response to) Sundquist's public comments on the draft SAP 2.2 prospectus *available at* <http://www.climate-science.gov/Library/sap/sap2-2/sap2-2prospectus-comments.htm> (last visited on March 25, 2007). See also Email From: Stan Wulschleger, To: Jennifer Jenkins, Date: December 10, 2003, Subject: An Invitation *on file with GAP*. This "informal solicitation" contradicts the SAP 2.2 prospectus, which provides for unsolicited proposals only. See <http://www.climate-science.gov/Library/sap/sap2-2/sap2-2prospectus-draft.htm> (last visited on March 25, 2007).

"encouraged" submitters "to identify content and lead authors as much as is possible."²²⁵ The guidelines also emphasized that, without this information, the proposal would have to demonstrate how it would conduct a more open process within the schedule taken verbatim from the ORNL proposal that assumed pre-determined authors and content.²²⁶ According to Sundquist, "this degree of agency oversight in the proposal process is not consistent with [the government]'s stated justification for preparing the SOCCR outside of FACA requirements, and has compromised its independence from government influence."²²⁷

Although Mahoney had – to OSTP's displeasure – insisted that the draft SAP reports be posted on the Internet before final review, there is no guarantee that this transparency will hold following Mahoney's retirement in March of 2006.²²⁸ Moreover, the CCSP office has not been authorized to talk to the press; rather, all questions are referred to NOAA or the CEQ chairman. Finally, there is concern about the potential ability of special interests to legally challenge the compliance of congressional reports with various procedural statutory requirements, and thus to delay or block their completion or dissemination.

Consider the United States National Assessment of the Potential Consequences of Climate Variability and Change (USNA), transmitted to Congress at the end of 2000 pursuant to the Global Change Research Act (GCRA).²²⁹ As the National Research Council of the National Academies noted, the USNA was produced through a process that included "exemplary" stakeholder involvement and exhaustive peer review. Nevertheless, on October 5, 2000, an industry-backed policy group, the Competitive Enterprise Institute (CEI), joined by Senator James Inhofe (R-OK) and other co-plaintiffs, filed suit against President Clinton, OSTP, and NSTC alleging violations of the FACA, the GCRA, and Public Law 106-74.²³⁰ Following Clinton's departure from

²²⁵ Compiled comments of CCTWG submitted to NCAR (May 14, 2005) *on file with GAP*; SAR 2.2 Guidance to Proposers (May 14, 2004) *on file with GAP*.

²²⁶ *Ibid.*

²²⁷ *Ibid.* See also Sundquist, Public Review Comments (February 2 – March 7, 2005) on the Draft Prospectus for Synthesis and Assessment Product 2.2 *available at* <http://www.climate-science.gov/Library/sap/sap2-2/sap2-2prospectus-comments.htm> (last visited on March 23, 2007). The final SAP 2.2 report is due to be released March 2007.

²²⁸ Mike MacCracken, communications with Maassarani (May 27, 2006) *record on file with GAP*.

²²⁹ According to its website, CEI is "a pro-market, public policy group committed to advancing the principles of free enterprise and limited government, including a focus on global warming, the EPA, and other environmental issues." While CEI does not disclose its sources of funding, ExxonMobil has contributed over two million dollars to CEI since 1998, based on the company's own data. Recently, CEI launched a CO₂ ad campaign promoting the benefits of increased carbon emissions.

²³⁰ In his memorandum, Rick Piltz writes:

The National Assessment was built on a solid foundation of research supported by the USGCRP and went through an extensive four-stage expert and public review. It entrained the contributions of a distinguished National Assessment Synthesis Team and of hundreds of other scientists and produced a set of reports that to this day remains the most comprehensive and authoritative scientifically based assessment of the potential consequences of climate change for the United States. It was a primary basis for Chapter 6 on "Impacts and Adaptation" of the *U.S. Climate Action Report 2002*, which was submitted by the U.S. Government pursuant to the national

office, the case was refilled, naming George W. Bush et al. as defendants. The suit was ultimately settled, with a joint stipulation that the USNA does not and will not serve as the basis for any policies, positions or rules of the federal government, but that it constituted a submission by a non-governmental body and would be considered by policymakers as such.²³¹ A memorandum by Dr. Rosina Bierbaum, the then-Acting Director of OSTP, clarified for the record that products, even in undisputed compliance with FACA, do not represent government policy. Nothing in the legal record prohibited citation of the scientific document.

Then on July 20, 2001, Peter Backlund of the OSTP senior professional staff informed Rick Piltz that the OSTP Chief of Staff, Richard Russell, had directed that all references to the USNA be deleted from the FY2002 edition of *Our Changing Planet* – the CCSP's first annual mandatory report to Congress after the USNA was issued.²³² According to Piltz, this incident foreshadowed the disappearance:

of all but the most fleeting and uninformative references to the [USNA] throughout all subsequent publications, including most significantly the CCSP *Strategic Plan*, the OCP 2003 and OCP 2004-2005 reports to Congress, internal documents related to CCSP budget and planning, and documents pertaining to the development of the current prospective CCSP "synthesis and assessment" reports. In any review draft of any of these documents that contained even the briefest discussion of the National Assessment, either the Council on Environmental Quality or an unattributed reviewer (but clearly either from CEQ or OSTP) would call for the text to be deleted.²³³

Dr. Mahoney has confirmed that federal researchers were restricted from referring to the USNA.²³⁴ The March 31, 2003, draft of the CCSP *Strategic Plan* prepared by the science program managers contained 12 references to the USNA.²³⁵ However, the final printed version offered only one single-sentence reference, which did not include the

reporting requirements of the Framework Convention on Climate Change, after having been approved by all relevant agencies. In spite of this being the most complete and most widely reviewed position statement on climate change by this administration, the *U.S. Climate Action Report 2002* was almost never mentioned after it was issued and for some reason does not appear to be viewed by the administration or the CCSP as an official acceptance of National Assessment findings.

²³¹ Rick Piltz, memorandum on "On Issues of Concern About the Governance and Direction of the Climate Change Science Program" (June 1, 2005).

²³² Rick Piltz, Declaration in Support of Memorandum of Amici Curiae John Kerry and Jay Inslee (February 8, 2007). In April 2001, USGCRP discontinued the development of informational brochures and CDs that had been prepared to draft form as part of outreach for the USNA. Anonymous scientist, communications with Maassarani (March 4, 2007) *record on file with GAP*.

²³³ A March 5, 2002, email exchange between OMB's Robert Tuccillo and CEQ's Cooney entitled "Revised Climate Change Report Executive Summary Language" suggests there was coordination between these two offices vis-à-vis such scientific reports. See http://www.whitehouse.gov/ceq/foia/index3/ceq_23.pdf (last visited on March 23, 2007).

²³⁴ *Environmental Science & Technology* online, October 12, 2005.

²³⁵ Rick Piltz, Declaration in Support of Memorandum of Amici Curiae John Kerry and Jay Inslee (February 8, 2007).

actual title of the report or a description of the USNA's process or content and which remained absent from the bibliography.²³⁶ According to one source, Drs. Linda Joyce and Jill Baron – lead author nominees of CCSP SAP 4.4 – had their role in the USNA removed from the bios included in the official prospectus.²³⁷

Furthermore, information (including statistical information) in government reports is subject to the Information Quality Act (IQA), also known as the Federal Data Quality Act.²³⁸ Enacted without debate in 2001 as part of a consolidated federal budget bill, the IQA requires the Executive Branch to develop guidelines to ensure “the quality, objectivity, utility, and integrity of information (including statistical information) disseminated by Federal agencies,” and to “establish administrative mechanisms allowing affected persons to seek and obtain correction of information maintained and disseminated by the agency that does not comply with the guidelines.” Although the IQA itself contained fewer than 250 words, it is now embodied in extensive guidelines issued by the OMB, with additional implementation guidelines adopted by each federal department and agency, overseen by OMB and OSTP. Since the implementation of the IQA, many petitions for “correction of information” have reportedly been filed by trade and industry groups seeking to challenge the release of information by federal agencies. Most notably, several petitions were filed by the CEI seeking withdrawal of climate model results used in the USNA, although the IQA had not been passed at the time the report had been drafted.²³⁹

Although CEI's petitions for correction were denied on the basis of technicalities, a subsequent lawsuit was settled November 4, 2003 – three months after its filing – by a “Stipulation of Dismissal With Prejudice.”²⁴⁰ This short turnaround presumably preempted the outcome of an investigation by U.S. Attorney General John Ashcroft requested by the Attorneys General of Connecticut and Maine on August 11, 2003. The request was prompted by the documentation of collaborative communications between CEQ's Philip Cooney and CEI's Myron Ebell and raised the issue of whether the “new litigation was an improper product of that close relationship [implicating CEQ] in efforts to undermine the United States' official reports.” Having disputed two of the climate models presented in the USNA and the 2002 *United States Climate Action Report* (CAR), a CEI press release stated “We are pleased to see that the federal government has now put

²³⁶ In reviewing the *Strategic Plan* through the revision process, the National Research Council noted that “one notable exception [to CCSP's generally good receptiveness to input] is the fact that the revised plan does not acknowledge the substantive and procedural contributions of the [USNA.] The revised plan does not reflect an attempt to address these concerns, and no rationale for this decision has been provided.” NRC Committee to Review the U.S. Climate Change Science Program Strategic Plan, *Implementing Climate and Global Change Research: A Review of the Final U.S. Climate Change Science Program Strategic Plan* (National Academies Press, 2004).

²³⁷ Anonymous scientist, communications with Maassarani (June 4, 2006) *record on file with GAP*. See also <http://www.climate-science.gov/Library/sap/sap4-4/sap4-4prospectus-final.htm> (last visited on March 23, 2007).

²³⁸ Letter from Sundquist to colleagues (undated) *on file with GAP*.

²³⁹ See http://www.whitehouse.gov/ceq/foia/index3/ceq_3.pdf (last visited on March 23, 2007).

²⁴⁰ See http://www.pacinst.org/national_assessment/dismissal11403.pdf (last visited February 2007).

the public on notice that the National Assessment is propaganda, not science.”²⁴¹ As a result of the stipulations, the web posting of the USNA added the qualifier that the document was “not subjected to [Federal] Information Quality Guidelines.”²⁴² According to a number of sources, administration officials and CCSP principals have dismissed further discussion of the USNA with vague allusions to the “legal requirements” of these settlements.²⁴³

Although the GCRA requires the CCSP to produce a comprehensive scientific assessment of its national global change research at least every four years, no subsequent USNA has ever been prepared.²⁴⁴ In its place, the CCSP 10-year *Strategic Plan* released in July 2003 called for the issuance of the 21 Synthesis and Assessment Reports between 2005 and 2007.²⁴⁵ In addition to the violation of the statutory schedule, a legislative review requested by Senators John Kerry (D-MA) and John McCain (R-AZ) of the Government Accountability Office “concluded in April 2005 that there is no indication that the planned reports will adequately address all the topics required by the GCRA.”²⁴⁶

²⁴¹ “White House Acknowledges Climate report is not subjected to sound science laws,” CEI press release (November 6, 2003) available at <http://www.cei.org/utills/printer.cfm?AID=3740> (last visited on March 23, 2007). Ebell was later quoted saying, “To the degree that it has vanished, we have succeeded.” “Finger-pointing persists over White House’s handling of 2000 report,” *Greenwire* (October 3, 2006).

²⁴² The term “subjected to” as used on the Web site has a very different meaning than the term “subject to” as mentioned by Marburger in a talk on the IQA lawsuit to the American Physical Society on April 17, 2005. It is accurate to say the National Assessment Overview and Foundation reports were not “subject to” the OSTP guidelines because they did not exist when those reports were published. It seems the term “subjected to” may have been deliberately chosen over “subject to” in order to suggest that the guidelines existed when the National Assessment was produced but were not applied to the reports.

²⁴³ Rick Piltz, memorandum on “On Issues of Concern About the Governance and Direction of the Climate Change Science Program” (June 1, 2005). On November 7, a group of notable scientists involved with the USNA wrote a letter to Dr. Mahoney that characterized the disclaimer as “misleading and incorrect” and demanded its retraction. Available at http://www.pacinst.org/national_assessment/Ltr-Jim%20Mahoney-111003.pdf (last visited on March 23, 2007). To our understanding, there has been no response.

²⁴⁴ According to the GCRA, 15 U.S.C. §2936:

On a periodic basis (not less frequently than every 4 years), the Council, through the Committee, shall prepare and submit to the President and the Congress an assessment which - (1) integrates, evaluates, and interprets the findings of the Program and discusses the scientific uncertainties associated with such findings; (2) analyzes the effects of global change on the natural environment, agriculture, energy production and use, land and water resources, transportation, human health and welfare, human social systems, and biological diversity; and (3) analyzes current trends in global change, both human-[induced] and natural, and projects major trends for the subsequent 25 to 100 years.

²⁴⁵ Senator McCain, QFR question #2 (July 20, 2005) *GAP August 9, 2006, part 2 NOAA FOIA response pg. 42*.

²⁴⁶ GAO “Climate Change Assessment: administration Did Not Meet Reporting Deadline,” (April 14, 2005). See also John Kerry, letter regarding: “Request for National Assessment of Climate Change Required by the Global Change Research Act of 1990” (August 21, 2006) on file with GAP. According to Piltz and meeting notes he originally drafted, Mahoney acknowledged (consistent with his prior representations) that the 21 SAPs were not sufficient to satisfy the Act in an October 13, 2004, meeting of the CCSP principals. However, what became the official “Record of Decisions/Actions” as approved by Mahoney was altered to state the contrary. Rick Piltz, Declaration in Support of Memorandum of Amici Curiae John Kerry and Jay Inslee (February 8, 2007).

Kerry and McCain, echoing Rick Piltz and a number of scientists on the subject, have argued “that the 21 shorter reports cannot substitute for the single, coherent synthesis required by the GCRA to enable Congress and federal agencies to make informed, effective decisions to address the impacts of climate change on the United States.”²⁴⁷ On November 14, 2006, the Center for Biological Diversity and other environmental groups – later supported by an amicus curiae brief filed by Kerry and Representative Jay Inslee (D-WA) – sued the Bush administration for failing to produce the overdue USNA in violation of the GCRA.²⁴⁸

One CCSP assessment product that addresses GCRA goals to promote effective policymaking, SAP 5.2, “Best practice approaches for characterizing, communicating, and incorporating scientific uncertainty in decisionmaking,” has received sharp criticism from the NAS National Research Council:²⁴⁹

There are larger issues in that the draft SAP falls short of the requirements set forth in the prospectus. The draft does not address all of the specified audiences, particularly “policymakers, decision-makers, and members of the media and general public with an interest in developing a fundamental understanding of the issue.” In addition, the current draft does not constitute an assessment of the full range of “best practice approaches” for characterizing, incorporating, and communicating uncertainty. It will take a substantial revision of the current document or the production of a companion document, both of which would require the involvement of additional authors, to address these larger issues and additional audiences

²⁴⁷ John Kerry, letter regarding: “Request for National Assessment of Climate Change Required by the Global Change Research Act of 1990” (August 21, 2006) *on file with GAP*; Rick Piltz, “Toward a Second U.S. National Climate Change Assessment,” *Eos* (American Geophysical Union, December 2005). Rick Piltz, Declaration in Support of Memorandum of Amici Curiae John Kerry and Jay Inslee (February 8, 2007) at ¶¶ 69-70, 77 in *Center for Biological Diversity et. al. v. Dr. William Brennan et. al.* (N.D. Cal. 2007). John Kerry and Jay Inslee, Memorandum of Amici Curiae In Support of Plaintiffs’ Motion for Summary Judgment (February 8, 2007); Rick Piltz, Declaration in Support of Memorandum of Amici Curiae John Kerry and Jay Inslee (February 8, 2007) contended that their failure to produce the reports “is part of a larger pattern of suppressing climate science.”

²⁴⁸ For Plaintiffs’ pleadings, amici, and press releases, *see*

<http://www.biologicaldiversity.org/swcbd/programs/policy/energy/national-assessment.html> (last visited on March 23, 2007). As the CCSP had not updated its 2003 *Strategic Plan*, their complaint for declaratory and injunctive relief also alleged a violation of the GCRA requirement to “develop a National Global Research Plan... at least once every three years....” 15 U.S.C. §2934. On December 11, 2006, Inslee, Representative Wayne Gilchrest (R-MD), and 22 House co-signers sent a letter to William Brennan, the Acting Director of the Climate Change Science Program, stating “The failure of the CCSP to produce a National Assessment report within the time frame required by law has made it more difficult for Congress to develop a comprehensive policy response to the challenge of global climate change.” Available at <http://www.climate-science-watch.org/file-uploads/House-NA-ltr.pdf> (last visited on March 23, 2007).

²⁴⁹ Committee to Review the U.S. Climate Change Science Program’s Synthesis and Assessment Product 5.2, National Research Council, “Review of the U.S. Climate Science Program’s Synthesis and Assessment Product 5.2, ‘Best Practice Approaches for Characterizing, Communicating, and Incorporating Scientific Uncertainty in Climate Decisions Making,’” (2007) available at <http://www.nap.edu/catalog/11873.html> (last visited on March 25, 2007).

Evidence suggests that CCSP/NOAA congressional products are not the only reports that raise concerns. The 2002 *Climate Action Report* (CAR), which incorporated some of the USGCRP's work, suffered a similar fate as the USNA. Pursuant to the reporting requirements for signatories of the U.N. Framework Convention on Climate Change (UNFCCC), the strongly-worded report was prepared by the EPA, received approval by all the relevant agencies, and submitted to the UNFCCC Secretariat by the State Department. Although it emphasized adaptation to, and not mitigation of, climate change, Andrew Revkin of *The New York Times* wrote that it stood in "sharp contrast to prior statements on climate change by the administration."²⁵⁰ On June 3, 2002, in an email obtained by FOIA, CEI's Ebell offered to help CEQ's Cooney manage the "crisis" and help "cool things down."²⁵¹ Indeed, after the CAR was shipped to the UN with no accompanying press release or announcement, President Bush downplayed the report as having been "put out by the bureaucracy" and it was rarely ever mentioned again.²⁵² All this despite an op-ed by CEQ chair James Connaughton rebuffing Revkin's assertion that there has been a change in rhetoric.²⁵³

²⁵⁰ Andrew Revkin, "U.S. Sees Problems in Climate Change," *The New York Times* (June 3, 2002). Noting that the "primary impact on the NWS PAOs and scientists is the suggestion in the report that Global Warming is going to have an impact on the U.S. weather, including more heat waves and coastal storms," NWS public affairs chief Carrey Curtis forwarded the article in an email asking staff to "refer all media inquiries about the report or global warming in general to NOAA HQ" Email From: Frank Lepore; To: Jana Goldman; Date: June 6 2002; Subject: Japanese TV inquiry regarding global warming *GAP August 9, 2006, part 3 NOAA FOIA response pg. 97-101*.

²⁵¹ Once again suggesting a collaborative relationship, the email goes on to urge Cooney to disavow the Climate Action and National Assessment reports, adding "If it were only this one little disaster we could all lock arms and weather the assault, but this administration has managed, whether through incompetence or intention, to create one disaster after another and then to expect its allies to clean up the mess." Several similar emails on file with the author illuminate Cooney's, as well as Connaughton's, relationship with CEI. See, e.g., http://www.whitehouse.gov/ceq/foia/index3/ceq_4.pdf (last visited on March 23, 2007). However, CEI was not unique in this regard. In another FOIA document dated June 12, William O'Keefe, President of the George C. Marshall Institute – an ExxonMobil-supported think tank that works to debunk mainstream climate science – faxed Cooney a copy of a letter written to White House Chief of Staff Andrew Card that reads: "I am writing about the recently released national assessment, which seems completely inconsistent with the President's policy and expressed views on the subject" and goes on to suggest that the administration have a senior person on the White House staff to coordinate communications on climate change and make sure everyone was "on the same page, with the same message." http://www.whitehouse.gov/ceq/foia/index1/gp_who_4.pdf (last visited on March 23, 2007). It was shortly thereafter that Cooney took on a more active role in CCSP governance and editing of reports. Rick Piltz, Declaration in Support of Memorandum of Amici Curiae John Kerry and Jay Inslee (February 8, 2007). See also CEI's "Final Joint Letter to President Bush on Climate Action Report 2002" (June 7, 2002) available at http://www.whitehouse.gov/ceq/foia/index3/arms_202.pdf (last visited on March 23, 2007).

²⁵² Rick Piltz, memorandum on "On Issues of Concern About the Governance and Direction of the Climate Change Science Program" (June 1, 2005), "Slow Approach to Climate Change" *Associated Press* (July 11, 2002). In fact, the final May 28, 2002, document submitted to the UNFCCC was modified to repeat "two text boxes describing the uncertainty in climate change regional projections and impacts." Talking Points on the U.S. *Climate Action Report* (September 3, 2002) available at http://www.whitehouse.gov/ceq/foia/index1/gp_arms_406_att_1.pdf (last visited on March 23, 2007).

²⁵³ James Connaughton, "Letter to the Editor," *The New York Times* (June 10, 2002). See also Final Press Guidance (June 6, 2002) cleared by the State Department, CEQ, EPA, NOAA, USDA, and DOE available at http://www.whitehouse.gov/ceq/foia/index1/gp_arms_189_att_1.pdf (last visited on March 23, 2007). Prior to joining the White House, Connaughton worked in the environmental practice group of Sidley Austin Brown & Wood, which represents a variety of industry groups in environmental criminal defense, regulatory practice, and environmental torts and litigations.

The fourth CAR was required by Article 12 of the UNFCCC no later than January 1, 2006.²⁵⁴ The review draft of the report – announced by the State Department as publicly-available in the summer of 2005 – is still not forthcoming, though a draft was leaked to *The New York Times* in early March 2007.²⁵⁵ Although CEQ spokeswoman Kristen Hellmer blamed the delay on the “extensive interagency review process,”²⁵⁶ GAP’s inside sources complained that any such process is marred by a lack of personnel and adequate transparency.²⁵⁷ Presumably, the report is still caught up in EOP-level review and clearance due to chapter six, the traditionally “sensitive” section on “Vulnerability Assessment, Climate Change Impacts, and Adaptation Measures”²⁵⁸ and the government’s failure to fill recently vacated senior staff positions.²⁵⁹

In June 2003, the EPA encountered more problems with the publication of its first-ever national *Draft Report on the Environment*, commissioned in 2001 by then administrator Christie Whitman.²⁶⁰ As reported by *New York Times* journalist Andrew Revkin, who saw early drafts of the climate section and an internal memo from the EPA, White House officials had “eliminated references to studies concluding that warming is at least partially caused by rising smokestack and tailpipe emissions and could threaten health and human ecosystems.”²⁶¹ According to House Government Reform Committee staffers permitted to review some of the documents *in camera*, OMB suggested removing a discussion of climate change from the report’s executive summary; OSTP asked to strike a discussion of the human health and ecological effects of climate change; CEQ urged the EPA to “delete climate change or use previously agreed upon material,” and DOE officials contended that atmospheric concentrations of carbon should be dismissed as poor indicators of climate change.²⁶² In another instance, a citation to a 1999 study

See <http://www.whitehouse.gov/ceq/connaughton-bio.html> (last visited on March 23, 2007) and <http://www.sidley.com/practice/group.asp?groupid=1117> (last visited on March 23, 2007).

²⁵⁴ Federal Register: April 8, 2005 (Volume 70, Number 67) Page 18066-18067.

²⁵⁵ Andrew Revkin, “US sees its emissions growing without letup,” *International Herald Tribune* (March 3, 2007). The leaked draft estimates that U.S. greenhouse gas emissions grow will grow nearly as fast (11%) through the next decade as they did in the past.

²⁵⁶ John Heilprin, “Report projects almost 20-per-cent rise in U.S. greenhouse emissions by 2020,” *Associated Press* (March 3, 2007).

²⁵⁷ Anonymous source, interview with Maassarani (date withheld) *records on file with GAP*.

²⁵⁸ See <http://www.usgcrp.gov/usgcrp/links/assessments.htm> (last visited on March 23, 2007).

²⁵⁹ Departed officials include James Mahoney, Michael McCracken, Rick Piltz, and Richard Moss.

²⁶⁰ OMB has been described by one source as historically being intensely critical of EPA, which it sees as the most activist-minded agency on issues of climate change. Contrast this with NASA, which is more theoretical and disassociated from regulatory activities.

²⁶¹ Andrew Revkin with Katharine Seelye, “Report by the E.P.A. Leaves Out Data on Climate Change,” *The New York Times* (June 19, 2003).

²⁶² Henry Waxman, House Oversight and Government Reform Committee memorandum regarding CEQ documents (January 30, 2007) citing Committee Staff Notes, Documents Numbered WH 19, ARMS 23 Attachment 1, ARMS 34, and ARMS 39 Attachment 5 (EPA Draft Report on the Environment). Other comments noted by committee staff included, “Take care here and be sure to be consistent with administration policy. Let us try to avoid another CAR scenario” (ARMS 39 Attachment 18, referring to the Climate Action Report discussed above). They also noted proposed White House edits such as the deletion of the language that climate change may “alter regional patterns of climate” and “potentially affect the balance of radiation” (ARMS 69 Attachment 2) and replacement of the phrase “changes observed over the last several decades are likely mostly the result of human activities” with “a causal link between the

showing a sharp temperature rise in the last decade compared with the last millennium was replaced with “a reference to a new study, partly financed by the American Petroleum Institute, questioning that conclusion.”²⁶³ In hand-written notes, CEQ Chief of Staff Philip Cooney made a number of his own edits.²⁶⁴ Emails from CEQ Chairman James Connaughton reveal that he participated directly in the review, requesting to be apprised of every edit made to the EPA draft report.²⁶⁵

As reviewers for the 2003 EPA report, Drs. Mahlman and Trenberth independently raised identical objections that unidentified members of CEQ had “heavily censored” the report and EPA officials were part of the problem.²⁶⁶ Although much of the science came directly from the IPCC report, “it was obvious that senior EPA officials felt compelled to water down the conclusions.” Mahlman pointed this out in his reviews; however the anonymous feedback he received from the EPA in Washington, DC, revealed that they kept making modifications. In a private conversation with an inexperienced staffer, he recalls being told that they did this to make the reports more “Dubya friendly.” A June 2003 memo to the EPA Administrator outlined her three options: 1) accept the edits and weather “severe criticism from the science and environmental community for poorly representing the science;” 2) refuse any further White House changes and “antagonize the White House;” and 3) remove the climate change section entirely from the report as “the only way to meet both WH and EPA needs.”²⁶⁷ In the end, despite the staff’s preference for no compromise, EPA dropped the whole global warming discussion from the report.²⁶⁸ In a similar twist of fate starting September 2002, political appointees successfully deleted the climate section of an annual EPA air pollution report that had contained one for the prior six years. The White

buildup of greenhouse gases in the atmosphere and the observed climate changes during the 20th century cannot be unequivocally established.” (WH 15).

²⁶³ Andrew Revkin with Katharine Seelye, “Report by the E.P.A. Leaves Out Data on Climate Change,” *The New York Times* (June 19, 2003).

²⁶⁴ Henry Waxman, House Oversight and Government Reform Committee memorandum regarding CEQ documents (January 30, 2007) citing Committee Staff Notes, Document Numbered WH 6 (EPA Draft Report on the Environment). Cooney inserted claims that satellite data contradict global warming; deleted the phrase that “regional patterns may be altered [by climate change]” and “climate change has global consequences for human health and the environment”; removed climate change from a discussion of environmental issues with global consequence, as well as references to the National Research Council’s finding of anthropogenic climate change; struck a chart of historical temperature reconstructions and reference to the observation that the eight warmest years on record occurred in the last decade; introduced the word “potentially” in a number of places to increase the uncertainty of scientific assessments; and added “these changes must be made.”

²⁶⁵ Henry Waxman, House Oversight and Government Reform Committee memorandum regarding CEQ documents (January 30, 2007) citing Committee Staff Notes, Document Numbered ARMS 34 (EPA Draft Report on the Environment).

²⁶⁶ Jerry Mahlman, interview with Maassarani (April 6, 2006) *record on file with GAP*; Kevin Trenberth, interview with Maassarani (April 6, 2006) *record on file with GAP*.

²⁶⁷ Henry Waxman, House Oversight and Government Reform Committee memorandum regarding CEQ documents (January 30, 2007) citing Committee Staff Notes, Document Numbered WH 22 (EPA Draft Report on the Environment).

²⁶⁸ This omission was a common flashpoint of criticism in the nation-wide public meetings that EPA organized in the fall of 2003. *Summary Report of the National Dialogue on the EPA Draft Report on the Environment* (April 2004).

House argues that the administration has extensively addressed the state of the climate elsewhere.²⁶⁹

Despite an often troubled tenure with the Bush administration, Christie Whitman left her office four days after the release of the Draft Report on the Environment with no further comments on the incident.²⁷⁰ Not so for the former EPA administrator under President Richard Nixon and Gerald Ford, Russell Train, who wrote: "In all my time at the EPA, I don't recall any regulatory decision that was driven by political considerations. More to the present point, never once, to my best recollection, did either the Nixon or Ford White House ever try to tell me how to make a decision."²⁷¹

At about the same time as the EPA report, one source noted that CEQ had also requested subtle language changes to an EPA climate change brochure, which the EPA decided to ignore.²⁷² According to our source, because the EPA proceeded to print the brochures without proper approval, they have remained boxed up in a warehouse ever since. The Arctic Climate Impact Assessment (ACIA) suffered a, by now, familiar fate. The ACIA was a major project, commissioned by the U.S. Government along with the other parties to the Arctic Council, funded by CCSP-participating agencies, and chaired by the long-time former chair of the USGCRP interagency committee, with substantial participation of U.S.-based authors and reviewers. The ACIA Overview report was published in late 2004, with policy recommendations withheld until after the election. As Rick Piltz asks,²⁷³

Why has the CCSP failed to transmit copies of the report that were purchased for distribution to Members of Congress and others? They are still gathering dust in a storeroom, sitting in unopened boxes. What roles have CEQ, the State Department, and the CCSP Director played in what appears to be an administration decision to distance itself from the Arctic Climate Impacts Assessment, which identifies a range of observed and projected adverse impacts of climate change on Arctic ecosystems and communities, with implications for global climate change and potential global consequences, including accelerated sea level rise? The ACIA Chair testifies and gives briefings, but it is on his own. The U.S. government has been sitting out the follow through process, without acknowledging the findings, briefing Congress, or even delivering the report.

²⁶⁹ Andrew Revkin with Katharine Seelye, "Report by the E.P.A. Leaves Out Data on Climate Change," *The New York Times* (June 19, 2003).

²⁷⁰ "EPA'S Whitman Submits Resignation Letter," *CNN* online (May 21, 2004). One scientist, speaking on a condition of anonymity, observed that "this administration seems to want to make environmental policy at the White House.... I suppose that is their right. But one has to ask: on the basis of what information is this policy being promulgated? What views are being represented? Who is involved in the decision making? What kind of credible expertise is being brought to bear?" Interview with EPA scientist (named withheld upon request) conducted by Seth Shulman (January 2004) in *Scientific Integrity in Policymaking*, Cambridge, MA: Union of Concerned Scientists.

²⁷¹ Russell Train, letter to *The New York Times* (September 22, 2003) available at <http://www.grist.org/comments/soapbox/2003/09/22/epel/> (last visited on March 23, 2007).

²⁷² Anonymous EPA scientist, interview with Maassarani (June 2006) record on file with GAP.

²⁷³ Rick Piltz, memorandum on "Censorship and Secrecy" (June 2005) on file with GAP.

The Natural Resources Conservation Service (NRCS) of the U.S. Department of Agriculture (USDA) was blocked in September 2003 from reprinting a popular informational brochure about carbon sequestration in the soil and what farmers could do to reduce emissions of heat trapping gases.²⁷⁴ According to one current government official familiar with the incident, the brochure was widely viewed as one of the agency's successful efforts in the climate change field. The NRCS had already distributed some 325,000 of the brochures and sought a modest update, as well as proposing a Spanish edition. William Hohenstein, director of the Global Change Program Exchange in the USDA Office of the Chief Economist, acknowledged that he passed the request on to CEQ, as he says he would, "for any document relating to climate change policy."²⁷⁵ As a result of CEQ's objections about the brochure, staff at the NRCS dropped their proposal for a reprint. "It is not just a case of micromanagement, but really of censorship of government information," a government official familiar with the case noted. "In nearly 15 years of government service, I can't remember ever needing clearance from the White House for such a thing."²⁷⁶

Congressional Involvement

In exercising Congress' legislative oversight authority vis-à-vis the Executive Branch, members of Congress acting individually or in committee may request information disclosures, order investigations by the Government Accountability Office (GAO) or Inspector General, and push for reforms that re-align agency management with their statutory obligations. For example, on September 19, 2006, Representative Henry Waxman, who was at that time the ranking minority member of the House Committee on Government Reform, wrote and publicized a letter to Department of Commerce Secretary Carlos Gutierrez requesting internal documents and an explanation regarding that summer's global warming/hurricane media scandals.²⁷⁷ Likewise, on June 13, 2006, Senator Joseph Lieberman (D-CN) sent Vice Admiral Lautenbacher a letter requesting that NOAA develop an improved media policy and investigate "reports that NOAA officials are discouraged from making the results of their work public."²⁷⁸ Most recently, 14 senators wrote a letter to the Inspectors General of NOAA and NASA requesting "a formal investigation into continuing political interference with the work of scientists...."²⁷⁹

²⁷⁴ USDA official (name withheld upon request), interview with Seth Shulman (January 2004) in *Scientific Integrity in Policymaking*.

²⁷⁵ William Hohenstein, interview with Seth Shulman (January 2004) in *Scientific Integrity in Policymaking*. According to a June 20, 2002, email this "policy" may have started after the release of the 2002 *Climate Action Report*. Hohenstein forwards a USDA press release to CEQ's Philip Cooney, noting "It will be important to make sure the communications staffs in USDA, the WH, and DOC are aware of the Ag document's contents and status before it is released" available at http://www.whitehouse.gov/ceq/foia/index3/arms_249.pdf (last visited on March 23, 2007).

²⁷⁶ USDA official (name withheld upon request), interview with Seth Shulman (January 2004) in *Scientific Integrity in Policymaking*.

²⁷⁷ Letter From: Henry Waxman; To: Carlos Gutierrez; Date: September 19, 2006, on file with GAP.

²⁷⁸ Letter From: Lieberman; To: Lautenbacher; Date: June 13, 2006, on file with GAP.

²⁷⁹ See Lautenberg press release, "Democrats Call for Formal Investigation of Bush Political Appointees Blocking Legit Science Research on Dangers of Global Warming" (September 29, 2006) available at <http://lautenberg.senate.gov/newsroom/record.cfm?id=264104&&> (last visited on March 23, 2007).

Unfortunately, some congressional committee chairmen have also used their oversight authority to target mainstream scientists and their science. In the summer of 2005, at the urging of the American Petroleum Institute, Representative Joe Barton (R-TX) – chairman of the House Committee on Energy and Commerce – disputed the methodology and statistics employed by university climatologist Dr. Michael Mann in constructing the historical temperature record into a “hockey stick”-shaped graph that was adopted by the IPCC Third Assessment Report. Barton relied heavily on studies published in *Geophysical Research Letters* and *Energy and Environment* by mining executive Stephen McIntyre and environmental economist Ross McKittrick that attempted to discern flaws in the work of Drs. Mann, Raymond Bradley, and Malcolm Hughes.²⁸⁰ *Energy and Environment* is not a science journal and does not appear in Journal Citation Reports, which lists all peer-reviewed journals.²⁸¹ Despite the fact that it is not peer-reviewed, studies in *Energy and Environment* have been regularly cited by Republican senators and congressmen to undermine the science of climate change during congressional debates.²⁸²

In turn, Chairman Barton demanded that Mann and colleagues provide in detail a list of all their studies and funding sources, the location of data archives, and information about their use of data, their computer code, and their role in the IPCC – vast amounts of information that was not always relevant to their studies.²⁸³ In response, the National Academy of Sciences, the American Association for the Advancement of Science, as well as fellow Congress members, have sent Barton letters of concern. On July 19, 2006, Barton called a hearing on climate change in which he largely attacked Mann’s “hockey stick” work. According to Lauren Morello of the *Environment and Energy Daily*, the hearing was scheduled for a time when the committee knew that Mann could not attend.²⁸⁴

²⁸⁰ In 2006, Congress took an interest in the “hockey stick graph” controversy. Representative Sherwood Boehlert, chairman of the House Science Committee, commissioned a report by a special committee of the National Research Council, which upheld some of McIntyre and McKittrick’s critiques, but found that this had only a small effect on Mann’s conclusions about recent unusually warm temperatures. At the same time, Representative Barton commissioned three statisticians to prepare an ad hoc committee report, which found McIntyre and McKittrick’s work “valid and compelling,” thus appearing to undercut Mann’s basic conclusions. The report also suggested that a close-knit community of paleoclimatologists might be preventing rigorous review of research results. NCAR scientists Drs. Thomas Wigley and Caspar Ammann, who reviewed the studies and reports, concluded that the NRC report missed some crucial recent work and that the statistical findings of the McIntyre and McKittrick study did not disconfirm Mann’s conclusions.

²⁸¹ Paul D. Thacker “Skeptics get a journal,” *Environmental Science & Technology* (August 31, 2005).

²⁸² The independence of McIntyre has also been brought into question by reports of his previously undisclosed ties to CGX Energy, an oil and gas exploration company. Paul D. Thacker “How the Wall Street Journal and Rep. Barton celebrated a global-warming skeptic,” *Environmental Science & Technology* (August 31, 2005).

²⁸³ Letter From: Barton; To: Mann; Date: June 23, 2005 *on file with GAP*.

²⁸⁴ Lauren Morello, “Scientists clash with Barton, others on cause of global warming,” *Environment and Energy Daily* (July 20, 2006).

Senator James Inhofe (R-OK) is Barton's counterpart global warming "skeptic."²⁸⁵ In a September 28, 2005, Environment and Public Works committee hearing on global warming, chairman Inhofe called in science-fiction author Michael Crichton as an expert witness. Crichton attempted to undermine peer-reviewed climate science.²⁸⁶ On an earlier occasion, Inhofe invited Drs. Willie Soon and Sallie Baliunas, authors of a study that claimed 20th century global warming to be unremarkable compared to other climate shifts. However, this study had been heavily criticized. According to media reports, even the editors of the journal that published it called their analysis "deeply flawed," and three of them subsequently resigned.²⁸⁷ The publisher, Dr. Otto Kinne, and an editor (later Editor in Chief) Dr. Hans von Storch, both said the paper should not have been published.²⁸⁸

On February 24, 2006, Inhofe requested the National Science Foundation, which funds the National Center for Atmospheric Research (NCAR), for detailed information regarding NCAR's employees, research projects, and funding sources. NCAR scientists and spokesperson Lucy Warner have declined to comment on the matter.²⁸⁹ This was preceded by a similar information request of the Climate Change Science Program.²⁹⁰ Together, Barton and Inhofe have received nearly \$2 million in contributions from the oil and gas industry.²⁹¹

²⁸⁵ Senator Inhofe has declared on the record that, "With all of the hysteria, all of the fear, all of the phony science, could it be that man-made global warming is the greatest hoax ever perpetrated on the American people? It sure sounds like it." Andrew Revkin, "Politics Reasserts Itself in the Debate Over Climate Change and Its Hazards," *The New York Times* (August 5, 2005).

²⁸⁶ See http://epw.senate.gov/public/index.cfm?FuseAction=Hearings.Hearing&Hearing_ID=ees2d515-9548-466b-996b-43d186d0d13e (last visited on March 23, 2007). Crichton is on record saying, "...there may in fact be more constraints on what an American tabloid can publish than what the UN IPCC can publish."

²⁸⁷ Andrew Revkin, "Politics Reasserts Itself in the Debate Over Climate Change and Its Hazards," *The New York Times* (August 5, 2005); Lauren Morello, "House probe turns to role of Cheney's office," *Environment and Energy Daily* (March 20, 2007).

²⁸⁸ Andrew Revkin, "Politics Reasserts Itself in the Debate Over Climate Change and Its Hazards," *The New York Times* (August 5, 2005).

²⁸⁹ Tom Wigley and Caspar Ammann, interview with Maassarani (April 5, 2006) *record on file with GAP*; Lucy Warner, communication with Maassarani (April 28, 2006) *record on file with GAP*.

²⁹⁰ Letter From: James Mahoney; To: Inhofe; Date: November 14, 2005 *available at* <http://www.whitehouse.gov/ceq/foia/ccsp/ceq5.pdf> (last visited March 23, 2007).

²⁹¹ Seth Shulman, *Smoke, Mirrors, and Hot Air* (Union of Concerned Scientists, January 2007).

COMMUNICATIONS WITH THE PUBLIC AND THE SCIENTIFIC COMMUNITY

Public and professional communications represent a catch-all category for what does not neatly constitute media or congressional communications: scientific publications, presentations, and agency websites and mission statements. According to our investigations, these have not encountered as significant interference in either frequency or magnitude as media and congressional forms of communication. Nonetheless, a number of notable examples and patterns exist.

Scientific Publications

Publication in peer-reviewed journals represents the pinnacle of the scientific enterprise. Indeed, none of the over twenty scientists across four agencies personally interviewed for our investigation claimed to have experienced interference with the publication of their research in scientific journals. As one lab director and author of numerous scientific publications stated, "There has been no interference by NOAA in, or attempts to change text in, any of the research publications my Laboratory has produced since I have been there (6 years). Since this is our 'primary product,' that is a plus."²⁹²

Nonetheless, a few minor incidents have appeared in the FOIA record and news archives.²⁹³ On March 15, 2006, Dr. Al Powell, Director of NOAA's Center for Satellite Applications and Research (STAR), a division of NOAA's National Environmental Satellite Data and Information Service (NESDIS), called a meeting with Assistant Administrator for Satellite and Information Services Gregory Withee and other Data Center directors "to discuss our (NESIDS) concerns about the free inquiry of scientific research within our Center and other data centers in NESDIS."²⁹⁴ At issue was an article on the subject of temperature trends observed in the troposphere co-authored by STAR scientist Norman Grody, whose title, according to Powell, "NOAA had attempted to change... so that the phrase 'global warming' did not appear." Similarly, an anonymous UCS survey response by a U.S. Department of Agriculture climate scientist attested:²⁹⁵

²⁹² Anonymous lab director, communications with Maassarani (October 19, 2006) *record on file with GAP*.

²⁹³ Dr. Mahlman who, referring to only a couple of the approximately 1,200 NOAA scientists, has said:

It is this core of climate-science leaders in NOAA who are regularly submitting, and publishing, climate-relevant manuscripts to these high-prestige scientific journals. It is also the attempts of these highly respected scientists to submit manuscripts to any of these journals that have been "vetted" by the administration's political appointees who have been concerned that the content of these submitted manuscripts is somehow "threatening" to those in the current administration.

Jerry Mahlman, interview with Maassarani (April 6, 2006) *record on file with GAP*.

²⁹⁴ Email From: Al Powell, To: Zdenka Willis, Thomas Karl, Christopher Fox, Michael Fortune, Susan Devine, Date: March 15, 2006; Subject: Meeting with Greg on 4/10 @ 2pm *GAP May 30, 2006, NOAA FOIA response pg. 79*.

²⁹⁵ Survey of Federal Climate Scientists, UCS Scientific Integrity Program (2006) USDA commentary. 33% and 20% of UCS survey respondents perceived or experienced, respectively, "[p]ressure to eliminate the word(s) 'climate change' and/or 'global warming,' and/or similar terms. Question #20. See also Email From: Dixon; To: Gross; September 30, 2003; Subject: Science paper protocols? *Greenpeace select hurricane NOAA FOIA response pg. 132*, Email From: Gross, To: Dixon, Date: September 30, 2003;

Much of my “experience”... has mostly been related to the internal review of publications before release. These were laws on the books that were largely unenforced before 2001, and now it mostly just seems like the only thing they’re looking for us to be sure you say “climate change” instead of “global warming,” for example.

Whatever the incidence and gravity of political editing, these once-unenforced “laws” – i.e. the official policies governing the review and clearance of scientific papers – often establish the preconditions for such practices. A 2004 internal draft policy document – reviewed and approved by Powell himself – on the public release of scientific and technical papers requires NOAA management approval and grants it “ultimate authority to determine whether official papers may be publicly released.”²⁹⁶ At the same time, this proposed agency-wide policy fails to provide an author with the right of last review – the opportunity to inspect and approve any changes that result from the review and clearance process. The policy also requires review for unofficial papers – those written in an employee’s private capacity – that relate to NOAA interests. According to the NSB investigation and a heavily-redacted April 3, 2003, email by Tribble, it appears that this administrative order, though still in draft form is intended to replace the earlier policy (NAO 201-32G) dated February 1993, which incidentally does not mention management review and clearance.²⁹⁷ In December 2004, the Assistant Administrator of NOAA Research also introduced a system for notifying leadership of significant papers that may attract media attention, which involves reporting the status of

Subject: Science Paper *Greenpeace select hurricane NOAA FOIA response pg.131*; Email To: Gross; Date: November 5, 2003; Subject: Heads Up... *Greenpeace select hurricane NOAA FOIA response pg. 128-30*.

²⁹⁶ “Public Release of Scientific and Technical Papers,” dated: ?? 18, 2004 *GAP May 30, 2006, NOAA FOIA response pg 9-14*. Official papers has a notably broad definition that includes:

any scientific or technical paper, book, manuscript, article, abstract, conference, presentation preprint, or other related document [that is] authored or co-authored by a NOAA employee: a. at the direction of a NOAA official superior to the NOAA employee; b. substantially [sic] during the official working hours of the NOAA employee; c. with the assistance of other Government employees on official duty; or d. with the use of Government facilities, resources, or supplies.

In response to a question from GFDL, Goldman affirms that “‘official and non-official’ pretty much covers every possible publication... especially in the current political ‘climate.’” Email From: Stouffer; To: Delworth, Dixon; Date: July 6, 2004; Subject: NOAA media policy *Greenpeace select hurricane NOAA FOIA response pg. 16-18*.

²⁹⁷ Email From: Tribble; To: Scott Rayder, Jack Kelly, Conrad Lautenbacher; Date: April 3, 2006; Subject: Publication and Media Policies *GAP July 31, 2006, NOAA FOIA response pg. 95*; “NOAA Response to NSB” (March 23, 2006) *GAP July 31, 2006, NOAA FOIA response pg. 98*. According to a February 2006 email by Ahsha Tribble, they “could not get it approved because it conflicted with statements in the DAO [DOC Administrative Order]. So the DAO had to be revised and that is where we stand.” Email From: Eric Webster; To: Tribble; Date: February 2, 2006; Subject: protocol for public presentations *GAP July 31, 2006, NOAA FOIA response pg. 73*.

any such papers every two months.²⁹⁸ This contrasts to the policy in July 2004 asking only for a “heads-up” to the PAO when papers were accepted for publication.²⁹⁹

A survey of the publication policies submitted to the NSB specific to individual NOAA divisions and laboratories demonstrates patterns in the development and distribution of management/PAO clearance provisions. It suggests that mandatory approval by NOAA agency headquarters, as opposed to laboratory directors or division chiefs, has only occurred since the 2004 media and draft publication policies and then only in certain divisions.³⁰⁰ Consider the following documents from the FOIA record:³⁰¹

Name	Date	NOAA Division	Agency Mgmt/PAO clearance?	Description
Instructions for Clearance and Review of ARL Manuscripts	November 2005	Air Resources Laboratory	Yes	Requires internal review and HQ PAO clearance of all scientific articles/books/reports whether published in print or online.
Publication Review and Approval Guidelines	December 2003	NESDIS National Climatic Data Center	No	Director approval required for non-peer reviewed articles and deputy director approval for peer-reviewed articles. Note disclaimer: “May be superseded by NOAA policy under development.”
Administrative Procedures for Clearance and Publication	April 2003	National Geodetic Survey	No	Journals, scientific articles, and web content requires clearance from division chief and/or director.
Science Quality Assurance Program Fisheries Science Center Accreditation Standards	February 2002	National Marine Fisheries Service	No	Includes section (pg. 24) on communication and publication, which calls for a policy that reflects a commitment to the dissemination of clear, accurate, and consistent science.

²⁹⁸ Email From: Brian Gross; To: OAR GFDL all; Date: Dec. 23, 2004; Subject: Significant Papers *Greenpeace NOAA FOIA summary* pg. 38-39.

²⁹⁹ Email From: Stouffer; To: Delworth; Date: July 6, 2004; Subject: NOAA media policy *Greenpeace NOAA FOIA response* pg. 40-42.

³⁰⁰ In contrast, the official DOC policy on media and publications (DAO 219-2) issued in 1980 and applicable to all units in Washington, DC, and vicinity, requires publication review and clearance by OPCA.

³⁰¹ “NOAA Response to NSB” (March 23, 2006) *GAP July 31, 2006, NOAA FOIA response* pg. 97-125. While NOAA reported almost 50 documents related to “data release and communication of research results,” less than 15 such records were disclosed by NOAA pursuant to our FOIA request.

PMEL In-House Review Manuscript Status Sheet	January 2000	Pacific Marine Environmental Laboratory	No	Division leader and director review required.
National Centers for Ocean and Coastal Science	March 1999	National Centers for Ocean and Coastal Science	No	Statement of commitment to aggressive disclosure of research to public and media.
Policy of the CSD of ESRL regarding peer-reviewed publications	Undated	Earth System Research Laboratory Chemical Science Division	No	Lists the criteria for publications: paper must be within NOAA's scope of research and non-policy prescriptive – as determined by CSD program leaders and senior staff.
Status Sheet for Submitting GFDL Co-Authored Manuscripts	Undated	Geophysical Fluid Dynamics Laboratory	Unclear	Requires submission to GFDL staffers, Marsha Duggins and Gail Haller, before submissions for publications; then notification of PAO after acceptance.
NSSL/CIMMS policy for conference papers, journal articles, and MOU reports	Undated	National Severe Storms Laboratory/ Cooperative Institute for Mesoscale Meteorological Studies	No	Generally, formal papers require approval by division chief/director prior to submission.

Table of publication policies at various NOAA divisions and their associated clearance requirements

Presentations

Scientists have the opportunity to communicate their research directly – albeit to a limited audience – to the public and other scientists at conferences, talks, and other public fora. Even here, written speeches may require review and clearance because they are treated as communications subject to publication or media policies.³⁰² As with media and publication policies, prior to 2004 it does not seem that an official policy formally applied to presentations. For example, in July 2002, Dr. David Evans, Assistant Administrator for NOAA OAR, responded to a speech given by Dave Goodrich of NOAA Climate Observations and Services Program on air quality and climate change at

³⁰² E.g., the pending NOAA publication policy discussed above. This uncertainty is underscored by an email in which Dr. Karl corrects Laborde with regard to clearance for a talk and paper prepared for a science association presentation. He argued that notification of NOAA senior management (i.e. Ahsha Tribble) was required but that “approval” was not. Email From: Karl; To: Laborde; Date: Jan. 18, 2006; Subject: press materials *Thacker complete NOAA FOIA response* pg. 167-68.

the annual Air and Waste Management Association conference: "But did anyone know what he would say? Or look at the slides? Or inform Mahoney or others downtown?"³⁰³

On June 20, 2004, Knutson was invited to give a lecture on global warming and hurricanes as part of a science seminar series on Capitol Hill sponsored by the American Meteorological Society. After being cleared with the NOAA PAO and Legislative Affairs, he was asked to provide a copy of his PowerPoint slides a few days in advance for approval.³⁰⁴ An email string from a few days earlier reveals Scott Carter, NOAA legislative affairs officer, asking Tribble:³⁰⁵

I have a copy of his present and it is a huge file so I did not send. However, I wanted to get your thoughts on him using the term global warming. His title slide is "Global Warming and Hurricanes." I see the event does ask that, and I am no scientist, but I know that term is sensitive, so any problem in him using the term?

Indeed, Knutson remembers being cautioned against the use of the words "Global Warming" in the title of his presentation: "Just a heads-up... wouldn't want the higher ups coming down on you. There is discomfort in the administration with these terms."³⁰⁶ In this case, Knutson ignored the advice. He also remembers an October 2004 press conference at Harvard where NOAA emailed him talking points that stated there is "no strong evidence for a trend in Atlantic hurricanes."

Later in 2005, the Scientific Program Committee for the Seventh International Carbon Dioxide Conference (September 25-30) – composed of international scientists and chaired by Dr. Pieter Tans from NOAA's Boulder lab – had prepared a special opening session on energy use and the carbon cycle. According to Tans, the Boulder lab director, Dr. David Hofmann told him it should be cancelled due to its "policy implications."³⁰⁷ According to one source, and corroborated by the FOIA record, agencies that funded the conference, including NOAA's then Climate Monitoring and Diagnostics Laboratory (now GMD), had stipulated the conference be restricted to carbon dioxide measurements and modeling rather than climate change and climate modeling.³⁰⁸ Tans' determination to highlight the dominant role that his research suggested carbon dioxide plays as a "forcing agent" in climate change was met with opposition on a number of fronts. His draft abstract, asserting that "CO₂ is now generally recognized to be the main driver of climate change" was edited down and there was an attempt to

³⁰³ Email From: David Evans; To: Jana Goldman; Date: July 9, 2002; Subject: NOAA research-Air quality and Climate Topic of Goodrich Presentation *GAP August 9, 2006, part 3 NOAA FOIA response pg 112.*

³⁰⁴ Tom Knutson, interview with Maassarani (April 13, 2006) *record on file with GAP.*

³⁰⁵ Email From: Jennifer Sprague; To: Ahsha Tribble; Date: June 17, 2005; Subject: Upcoming AMS Seminar (From Tony Socci and Gina Eosco) – "New Orleans, Hurricanes and Climate Change: A Question of Resiliency" – Monday, June 20, 2005 *on file with GAP.*

³⁰⁶ Tom Knutson, interview with Maassarani (April 13, 2006) *record on file with GAP.*

³⁰⁷ Pieter Tans, interview with Maassarani (March 9, 2006) *record on file with GAP.*

³⁰⁸ Anonymous NOAA director, interview with Maassarani (June 1, 2006) *record on file with GAP*; Email From: Jana Goldman; To: Rori Marston; Date: February 17, 2006; Subject: Hofmann distillation re: tans *GAP August 9, 2006, part 3 NOAA FOIA response pg. 630.*

remove all mention of the words "climate change" in any presentation title of the poster displays and oral presentations at the conference.³⁰⁹

According to Dr. Tans, it only became clearer several months later – when he was told by his director and subsequently by the deputy director – that anything dealing with climate change had to be pre-approved at the White House level, including his laboratory's website content.³¹⁰ "It is probably for this reason that the webmaster for the conference had been ordered by the lab's director to remove any links coupling climate change to CO₂ increase, and NOAA curtailed the ability of participants to submit material for posting on the conference website." Indeed, while 450 scientists convened on a subject of great contemporary importance, the conference remained largely outside of the public view. As Tans perceived it, several months before the conference, Jana Goldman of Public Affairs had drawn up an ambitious media plan, but nothing much actually happened after that.³¹¹ A press conference had been scheduled on the first day of the conference, for which only a few local newspapers showed up. When Tans later asked a number of journalists, including reporters from *The New York Times*, *Washington Post*, and *Wall Street Journal*, about the conference, none could remember having been notified.³¹²

On the World Wide Web

The internet is growing as one of the most accessible and widely-used sources of public information. Indeed, NOAA registered more than a billion hits in 2004 and hosted 3.9 million unique users during the height of Hurricane Katrina.³¹³ It is thus a concern that the carbon dioxide conference does not represent the only example of political control over internet content. Online announcements or media advisories are often derived from the same press releases that require high-level review and clearance – as demonstrated by an email from OPCIA Director Jordan St. John stating, "This was the CEQ-approved release that went on the NOAA web site earlier this week."³¹⁴ As early as July 2001, the FOIA record shows one GFDL research meteorologist complain to public affairs on behalf of the laboratory:³¹⁵

³⁰⁹ Pieter Tans, interview with Maassarani (March 9, 2006) *record on file with GAP*.

³¹⁰ Pieter Tans, interview with Maassarani (March 9, 2006) *record on file with GAP*. Perhaps this is why, around the same time, it appears to have taken over six weeks for Dr. Feely to obtain clearance to participate in an American Meteorological Society science seminar series on Capitol Hill dealing with CO₂ concentrations and changes in ocean acidity. Email From: Feely, To: Dennis Moore, Eddie Bernard, Date: September 30, 2005 *Thacker complete NOAA FOIA response pg. 114-16*.

³¹¹ Note: GAP's FOIA request for "Any documents and communications concerning the press releases and other publicity materials prepared by NOAA public affairs for the 7th International Carbon Dioxide Conference in 2005" received no responses.

³¹² Pieter Tans, interview with Maassarani (March 9, 2006) *record on file with GAP*. David Shukman of the *BBC* also told GAP that he had not been directly notified. Communications with Maassarani (October 24, 2006) *record on file with GAP*.

³¹³ Josh Belzman, "Online, but under the radar," *MSNBC* (September 24, 2005).

³¹⁴ Paul D. Thacker, "Bush's climate-controlled White House," *Salon.com* (September 19, 2006).

³¹⁵ Email From: Keith Dixon; To : Jana Goldman; Date: July 26, 2001; Subject: GFDL Web Info GAP August 9, 2006, *part 3 NOAA FOIA response pg. 73-74*.

we were dismayed to see that the NOAA web pages have a link to "Greenhouse Warming Links" that directs one to <http://www.noaa.gov/greenhouse.html>.... and that GFDL is not listed on this page. If someone from the press (or government or a student or interested taxpayer) goes to [the site] thinking he/she will find out what NOAA is doing in relation to the greenhouse warming issue, I do not feel that that page is up to the task. Would you happen to know who is in charge of that page, so that we might lobby to get a link added....?

It took a long time for the website to begin openly reflecting sensitive science. A September 28, 2005, email by this same scientist is illustrative:³¹⁶

Perhaps you too will be pleasantly surprised when you see the link on the main NOAA web page to <http://www.noaa.gov/stories2005/s2512.htm>...

For me, it was encouraging to see NOAA actually highlight something related to GHGs [greenhouse gases], and to do so without over-emphasizing uncertainties.

Note the words "scientifically unambiguous" appear in the text. Imagine that!

It includes a quote from the NOAA/CMDL director that refers to "the success or failure of future efforts to curb carbon dioxide and other greenhouse gas increases" (yes... natural and human-engineered processes are given equal weight in the statement, but hey, it's still more than I would have expected.)

Also, the authors went out of their way to include the K-word Kyoto! in order to explain why the reference year is 1990. It would not have been hard to omit that bit of info, since I'm not sure that the reason for why a particular year is a reference year is so important [as] to merit inclusion in a short piece such as this. So it suggests to me that either very little editing was done [sic] with an eye towards not potentially offending greenhouse contrarians and their comrades –or– someone managed to successfully fight back such efforts.

So anyway, I took this as an encouraging sign that GHG-relate [sic] stuff can find its way onto the NOAA radar screen. Sure, it may not get the coverage of runaway dolphins, whales trapped in fishing lines, or surveys of Civil War era ironclad wrecks, but it's something!

The last sentence was a reference to the fact, as reported by Josh Belzman of *MSNBC*, that NOAA.gov featured an August 24 story about "how the agency's historians had debunked a 142-year-old Civil War legend involving a cannon and a cat" at the time that Katrina strengthened into a Category 5 monster and local and federal officials pleaded with Gulf Coast.³¹⁷ A few weeks later, while Hurricane Rita threatened the coast

³¹⁶ Email From: Keith Dixon; To: John Sheldon, Brian Gross, Tom Delworth, et al.; Date: September 28, 2005; Subject: Pleasantly surprised by NOAA's web page *GAP August 9, 2006, part 3 NOAA FOIA response pg 352*.

³¹⁷ Josh Belzman, "Online, but under the radar," *MSNBC* (September 24, 2005).

and website traffic increased four-fold, the homepage's top story was the rescue of four dolphins that Katrina had washed into the Mississippi River. At the time, "the storm topping NOAA's National Hurricane Center web site was Tropical Storm Philippe, a small system forecast to bypass the United States by more than 1,000 miles."

Even when sensitive science makes it up onto NOAA's website, it is often not without delay. For instance, a website on abrupt climate change created by the NOAA Paleodata Center in 2004 was briefly delayed on account of "White House concern about the subject's political sensitivity and the timing of the site launch on the same day as the movie 'The Day After Tomorrow,'" according to sources familiar with the website.³¹⁸ According to *Greenwire*:³¹⁹

Mark McCaffrey, a NOAA science communications specialist and lead author of the site, said the site was originally scheduled to go live early last week, but on Wednesday McCaffrey said it had been placed on an "indefinite hold" by higher-ranking officials within the Bush administration. When contacted yesterday, however, McCaffrey said the hold had been lifted. One official familiar with the project said officials decided to put the site up following media inquiries from *Greenwire* and other outlets.³²⁰

NOAA is not alone.³²¹ Without explanation, the State Department "retired" the Climate Change section of its "Global Issues" web page, which had provided current news about the issue. According to Rick Piltz, "there was no explanation, so we can only speculate as to why this was done, but it is worth noting that the second to last story posted was entitled 'Global Warming Topped Natural Cycles in Fueling 2005 Hurricanes.'" ³²² Moreover, the EPA websites dealing with Global Warming and the Global Change Research Program, actively updated prior to 2002, saw few if any updates thereafter. Piltz noted a few examples:³²³

On the "About the Site" page, there is no mention of the U.S. Climate Change Science Program, which since 2002 has been the name of the program through which EPA and other federal agencies coordinate their climate and global change research.

³¹⁸ Andrew Freedman, "Proposed budget cuts would eliminate abrupt climate change program," *Greenwire* (June 3, 2004); "NOAA website goes online following administrative delay," *Greenwire* (May 28, 2004).

³¹⁹ "NOAA website goes online following administrative delay," *Greenwire* (May 28, 2004).

³²⁰ In Grist, "The Day After Tomorrow Never Dies," (June 3, 2004), McCaffrey adds "Whatever source of authority imposed the delay had a change of heart. As a media storm gathered around the film and NOAA was hit with repeated inquiries about the abrupt-climate-change website rumored to be in development, the agency finally got the green light from above."

³²¹ 23% and 22% of UCS survey respondents, respectively, perceived or experienced "[d]isappearance/unusual delay in the release of websites, press releases, reports, or other science-based materials." Survey of Federal Climate Scientists, UCS Scientific Integrity Program (2006) question #22.

³²² Rick Piltz, "The State Department's disappearing Climate Change web page," *ClimateScienceWatch.org* (July 10, 2006).

³²³ Rick Piltz, "EPA's global warming communication problem - 2. Censored websites," *ClimateScienceWatch.org* (June 28, 2006).

On the "Publications" page, essentially all publications listed are from the 1989-2001 period. The sole exception appears to be the May 2002 U.S. *Climate Action Report* to the Framework Convention on Climate Change.

On the "News and Events -- Speeches" page, the most recent statement by an EPA official is by former administrator Christie Whitman in February 2003.

On the "News and Events -- Inside the Greenhouse" page, billed as "a state and local resource on global warming," the last entry is dated summer 2002.

Since Piltz' June 28, 2006 posting, the EPA, in collaboration with other federal agencies has resurrected and updated the site – renaming it the "Climate Change" website – according to an October 16, 2006, EPA press release. Although the website has substantial new material, the former CCSP official continues to raise a number of contentions. First, the website "cherry picks" quotes from the 2001 National Research Council report (*Climate Change Science: An Analysis of Some Key Questions*) that was commissioned by the White House – extracting those parts that tend "to create an enhanced sense of scientific uncertainty." Second, the site remains outdated, relying heavily on the IPCC Third Assessment Report (2001) at the expense of 5-6 years of more recent research – much of it supported by the CCSP.³²⁴ Third, the website continues to make little reference to or use of the U.S. *National Assessment* and the "Impacts and Adaptations" chapter of the U.S. *Climate Action Report*. Referring specifically to the website's "State of Knowledge" page, Mahlman asserts that certain statements range from being "scientifically incorrect" to seeming "to have been written by a non-scientist...."³²⁵ Furthermore, two sources have recently notified us that Michael Catanzaro, a new communications officer from the White House, has been "monkeying" with the website, changing both content and font.³²⁶

In spite of this, the EPA website represents a vast improvement when compared to the EPA Global Change Research Program website, which has not seen any signs of revitalization since the fall of 2002 (though it states it is updated daily). As Piltz points out:³²⁷

Look at the "News Reel" trailer on the home page -- it refers to a report on a workshop on climate change and water quality in the Great Lakes region that is dated August 2003! And that appears to be just about the only noticeable addition to the site since October 2002, e.g., on the Research Projects page, the Publications and Presentations page, and the Newsletters page. Between 1999 and

³²⁴ The first sentence of the EPA news release announcing the unveiling of the revamped website says that its purpose is "to provide the public with the most up-to-date information on climate change."

³²⁵ Jerry Mahlman, communications with Maassarani (Oct. 31, 2006) *record on file with GAP*.

³²⁶ Anonymous EPA scientist, interview with Maassarani (March 3, 2007) *record on file with GAP*; Anonymous government official, communications with Maassarani (March 1, 2007) *record on file with GAP*.

³²⁷ Rick Piltz, "EPA's global warming communication problem – 2. Censored websites," *ClimateScienceWatch.org* (June 28, 2006).

2001 the EPA program put out 37 issues of Global Change Research News -- but none since 2001.³²⁸

Mission Statements

Mission statements hold out the essence of an agency's function to the public and provide guidance for an agency with its own goals and objectives. On February 6, 2006, the Bush administration removed the phrase "To understand and protect our home planet" from the NASA mission statement in the budget and planning documents submitted to Congress.³²⁹ David Steitz, NASA spokesman, says that it was "pure coincidence" that James Hansen repeatedly used the phrase during the controversy over his being "muzzled" in the months prior but, according to *The New York Times*, Hansen suggested that the White House ordered the change to "shift the spotlight from global warming."

Unlike the deliberative process that added the line to the mission statement in 2002 -- seen as appropriate due to NASA's increased involvement in environmental monitoring since its inception in 1958 -- in this case NASA researchers were neither informed nor consulted ahead of time. According to Andrew Revkin, "the shift in language echoes a shift in the agency's budgets toward space projects and away from earth missions, a shift that began in 2004 -- the year Mr. Bush announced his vision of human missions to the Moon and beyond."³³⁰ One anonymous scientist from NASA stated, "I view the removal of this mission directive as retaliation. Because of the importance of the mission statement in justifying individual research, the removal of this from the NASA mission statement will be very effective at reducing NASA climate research."³³¹ Another GISS scientist has noted that re-naming the research mission from Earth Systems research to Earth-Sun system has had a "huge and demoralizing impact" and that she has been in many meetings where scientists are urged to repackage their whole research programs in terms of the new nomenclature and buzzwords.³³²

³²⁸ Piltz goes on to state:

The EPA Global Change Research Program has a \$20 million annual budget to contribute to the overall U.S. Climate Change Science Program with a "primary emphasis on evaluating the potential consequences of global change (particularly climate variability and change) on air quality, water quality, ecosystems, and human health in the United States." In the CCSP reports to Congress on research activities in 2003 (pp. 113-115) and 2004-2005, EPA listed numerous global change research projects underway and reports to be published on these topics. But on the EPA global change program website we look in vain for publications, or even current project descriptions, since 2002 that would document the progress and results of this research agenda.

³²⁹ Andrew Revkin, "NASA's Goals Delete Mention of Home Planet," *The New York Times* (July 22, 2006). See also Letter From: Collins, Lieberman; To: Griffin; Date: July 31, 2006 on file with GAP.

³³⁰ Revkin reports that in December 2004, a NASA Jet Propulsion Laboratory scientist "had been pressured to say in a news release that his oceanic research would help advance the administration's goal of space exploration."

³³¹ Survey of Federal Climate Scientists, UCS Scientific Integrity Program (2006) NOAA commentary.

³³² Anonymous scientist, interview with Jennifer Freeman (June 27, 2006) record on file with GAP.

Nonetheless, not all scientists necessarily give in. The above-quoted scientist has ignored the changes. A USDA climate scientist adds:³³³

In general, climate change science is continuing at government agencies, and I believe we continue our world-recognized pre-eminence that we had in the 1990's. However, much of our work continues more clandestinely as we've had to amend our project titles and descriptions to get rid of key buzzwords that are not focused by the current Bush administration. For example, our new project plans no longer mention our ??? [sic] carbon budget studies in project plan tasks, even though individual scientists labs are continuing their work in this area.

The most pervasive such linguistic shifts was best captured by an interview request from an "On Language" columnist for *The New York Times Magazine* who, according to Kent Laborde at the NOAA PAO, wondered why the term "global warming" had migrated to "climate change" in the past few years and whether there is "a technical/scientific difference or is it a semantic issue that one sounds better than the other?"³³⁴ The request was forwarded to Ahsha Tribble who asks NOAA Deputy Administrator Mahoney to handle the interview, leading Mahoney and Laborde to discuss:

A question for Kent: has this been reviewed by our EOP [Executive Office of the President] colleagues?

I've not spoken with them yet. It seems like the explanation of the word changes could be done without the jeopardy of having to explain policy decisions. I can make a call to CEQ to get their approval on this if you would like.

Kent – Yes, it is necessary to have EOP on board. The two terms are policy-laden, and were developed by specific interests.... If we're agreeable with EOP, I can do a phone interview tomorrow morning from home.

A Note on Interference with Scientific Research

We reiterate that none of our investigation's primary sources experienced or perceived direct interference with their research. Nonetheless, anonymous surveys have uncovered incidents and trends of note. Consider, for example, the over 21% of climate scientist survey respondents that believed federal climate research was not independent and impartial.³³⁵ When sampling from NOAA scientists generally, not just in the field of climate science, UCS found that 53% of 460 NOAA scientists say they know of cases in which commercial interests have induced reversal or withdrawal of scientific conclusions through political intervention.³³⁶ Keep in mind that general survey encompassed agency

³³³ Survey of Federal Climate Scientists, UCS Scientific Integrity Program (2006) USDA commentary.

³³⁴ Email From: Mahoney; To: Ahsha Tribble, Kent Laborde; Date: July 26, 2005; Subject: [redacted] interview request *Thacker complete FOIA response pg. 55, 63-64.*

³³⁵ Survey of Federal Climate Scientists, UCS Scientific Integrity Program (2006) question #7.

³³⁶ 58% know of cases in which administrators or appointees have altered NOAA Fisheries' determinations.

divisions such as the National Marine Fisheries Service, which have regulatory functions that are more attractive to political influences.

The UCS climate science survey suggests that interference with research has been internalized due to the political climate and perhaps the signals that experienced and perceived interference with communications has sent. For example, 31% of respondents either experienced or perceived "Self-induced pressure to change research or reporting in order to align findings with agency policy or to avoid controversy" as well as "Fear of retaliation for openly expressing concerns about climate change inside my agency."³³⁷ Indeed, one EPA scientist commented that the former "is the biggest issue for our program. This is followed by bureaucratic [barriers] to communication via websites."³³⁸ Sixteen percent of climate scientists surveyed perceived or experienced an "Implicit expectation by officials for scientists to provide incomplete, inaccurate, or misleading information to the public." Twenty-five percent perceived or experienced "Situations in which scientists have actively objected to, resigned from, or removed themselves from a project because of pressure to change scientific findings."³³⁹

According to an EPA scientist, "The perception that something that we (climate scientists) might find and write might be considered controversial is a strong one that comes down from management. It's not clear that there's a real reason for it or what the consequences would be. This perception should be actively discouraged from the highest levels!"³⁴⁰

Forwarding the AP news story that mentions this statistic to colleagues, a GFDL scientist asks, "But that could never happen here, right?" Email From: John Sheldon; To: Brian Gross, Keith Dixon, John Lanzante, Steve Garner; Date: June 29, 2005; Subject: NOAA Scientists Say Reports Altered *GAP* August 9, 2006, part 3 *NOAA FOIA response* pg 289; Jeff Barnard, "NOAA Scientists Say Reports Altered," *Associated Press* (June 29, 2006).

³³⁷ Survey of Federal Climate Scientists, UCS Scientific Integrity Program (2006) question #23, 24.

³³⁸ Survey of Federal Climate Scientists, UCS Scientific Integrity Program (2006) EPA commentary.

³³⁹ Survey of Federal Climate Scientists, UCS Scientific Integrity Program (2006) question # 31.

³⁴⁰ Survey of Federal Climate Scientists, UCS Scientific Integrity Program (2006) EPA commentary.

AGENCY MISREPRESENTATION

Viewed in its totality, interference with media, congressional, and public communications of science results in a misrepresentation of science by the relevant agencies and the White House.³⁴¹ To illustrate this effect, we will explore how NOAA represented the science on all fronts regarding the climate change and cyclonic activity after the landfall of Hurricane Katrina. We take no position on the science itself and proceed from the premise that debate on an unsettled area of science should be represented fairly and openly to all aspects of the public.

³⁴¹ Consider also statements from the chief executive that are sorely misaligned with his agencies' basic scientific understandings. In response to a question about global warming at a March 29, 2006 press briefing, the President stated, "Well, first of all, the globe is warming—the fundamental debate, is it manmade or natural?" available at <http://www.whitehouse.gov/news/releases/2006/03/20060329-6.html> (last visited on March 23, 2007). More recently, Cheney echoed Bush in an exclusive February 23, 2007, interview with ABC, "Cheney on Global Warming: Vice President's Views at Odds with the Majority of Climate Scientists" available at <http://abcnews.go.com/Technology/story?id=2898539&page=1> (last visited on March 23, 2007). In February 7, 2007, web posting, OSTP's Murburger and CBQ's Connaughton reaffirmed a statement by White House Press Secretary Tony Snow that the U.S. was doing better than Europe in reducing its greenhouse gas emissions. Their "Open Letter on the President's Position on Climate Change," claimed that:

our emissions performance since 2000 is among the best in the world. According to the International Energy Agency, from 2000-2004, as our population increased and our economy grew by nearly 10%, U.S. carbon dioxide emissions increased by only 1.7%. During the same period, European Union carbon dioxide emissions grew by 5%, with lower economic growth.

However, this data was carefully selected to support the administration's statement. As Peter Gleick notes:

When *any year other than 2000* is selected as the base year, the performance of the European Union is better than the United States, and over the entire period from 1990 to 2004, the difference is stark. During those 15 years, U.S. greenhouse gas emissions grew more than 15% while emissions from the 15 countries of the European Union (the EU-15) declined by around 1%. Moreover, calculating the index of emissions for any set of years between 1990 and 2004 other than 2000-2004, European greenhouse gas emissions either grew more slowly than U.S. emissions or actually declined.

Peter Gleick, "The Political and Selective Use of Data: Cherry-Picking Climate Data in the White House" (March 12, 2007) *on file with GAP*. The White House is not the only source of scientific misrepresentation. In defending against a lawsuit filed by Friends of the Earth et al. against the Export-Import Bank and the Overseas Private Investment Corporation for providing financial assistance to oil and other fossil fuel projects without first evaluating their global warming impacts, the Department of Justice turned to outspoken global warming skeptic Dr. David Legates, director of the Center for Climatic Research at the University of Delaware, for expert opinion. Writing the science brief for the plaintiffs was Dr. MacCracken, a former scientist for the official U.S. Global Change Research Program, who relied on conclusions of the government-supported US National Assessment and IPCC. "Global Warming Skeptic Argues U.S. Position in Suit," *Science* (April 22, 2005) available at <http://www.hearstonline.org/content/server/objecthandlers/index.cfm?id=5172&method=full> (last visited on March 23, 2007). 23% and 18% of UCS survey respondents, respectively, perceived or experienced "[s]tatements by officials at [their] agency that misrepresent[ed] scientists' findings." Survey of Federal Climate Scientists, UCS Scientific Integrity Program (2006) question # 29.

Media Contact Favoritism

It appears that initially – in the media storm that followed Katrina – a scientist such as Tom Knutson freely conducted interviews on the relationship of hurricanes to global warming provided they gave notice and recap to their PAO.³⁴² Soon, however, Department of Commerce officials, whose approval was required, became hesitant about anyone speaking to the media on the subject.³⁴³ This included scientists such as Dr. Chris Landsea and meteorologist Max Mayfield, director of the National Hurricane Center, who were outspoken proponents of natural variability being the only significant explanation for the recent upswing in hurricane activity.³⁴⁴ These were then the first scientists to obtain re-approval. On September 23, 2005, OPCIA Director Jordan St. John forwarded Chuck Fuqua, Deputy Director of Communications at the Department of Commerce, one such media request, explaining: “This is like many of the other. Landsea will talk about the 20-30 natural cycle as the cause and wave off the climate connection as he has in a score of other interviews like this.” Fuqua approves, saying, “okay on this one. Please be careful and make sure Chris is on his toes. Since [redacted] went off the menu, I’m a little nervous on this one, but trust he’ll hold the course.”³⁴⁵

On the morning of October 16, 2005, Knutson received a request to appear on the CNBC show “On the Money.”³⁴⁶ Knutson called the PAO for approval. FOIA emails track how Kent Laborde forwarded the request to Chuck Fuqua, who responded, “what is Knutson’s position on global warming vs. decadal cycles? Is he consistent with Bell and

³⁴² Email From: Knutson; To: Laborde; Date: Sept. 8, 2005; Subject: recent media contacts *Thacker complete FOIA response pg. 91-93*; Email From: Knutson; To: Goldman, Laborde; Date: September 12, 2005; Subject: reporter contacts *Thacker complete FOIA response pg. 94*; Email From: Knutson; To: Goldman; Date: September 15, 2005; Subject: [redacted] interview request *Thacker complete FOIA response pg. 95*.

³⁴³ Email From: Catherine Trinh; To: Smullen; Date: Sept. 19, 2005; Subject: Landsea for [redacted] 9-19 *Thacker complete FOIA response pg. 96-98*. This email string also suggests that CEQ was involved in clearance decisions.

³⁴⁴ Email From: Smullen; To: Trinh; Date: Sep. 21, 2005; Subject: #2 *Thacker complete FOIA response pg. 105-06*; *Thacker NOAA FOIA summary pg. 3-4, 8*. A September 28, 2005, email from a DOC senior policy analyst Chris Scheve to Jennifer Sprague affirms that scientific perspectives were indeed at stake. The email states: “Here is the thing I referenced from Kerry Emanuel. While the first line is good, the rest of it is definitely a different perspective than what Landsea has been saying.” Subject: Kerry Emanuel *GAP August 9, 2006 part 2 NOAA FOIA pg. 61*.

³⁴⁵ Email From: St. John; To: Fuqua; Date: Sept. 23, 2006; Subject: R-3 [redacted] hurricanes-cause-climate change *Thacker NOAA FOIA response pg. 6-7*. Later that afternoon, St. John proposes tracking down Landsea to answer a request “for a NOAA scientists to discuss links between climate change and hurricanes” and obtains immediate approval from Fuqua. Email From: St. John; To: Fuqua; Date: Sept. 23, 2005; Subject: R-5 9-23 [redacted] hurricanes and CC-Goldman *Thacker complete FOIA response pg. 111-12*. Around this time, two email subject lines requesting clearance from DOC read: “clearance #[], g. warming not causing intense hurricanes....” *Thacker complete FOIA response pg. 96-99*.

³⁴⁶ Tom Knutson, interview with Maassarani (April 13, 2006) *record on file with GAP*; Antonio Regalado and Jim Carlton, “Statement Acknowledges Some Government Scientists See Link to Global Warming,” *Wall Street Journal* (February 16, 2006); and Clayton Sandell, “Government Accused of Censorship Over Global Warming E-Mails Suggest Officials Stopped Scientist From Talking About Global Warming,” *ABC News* (September 20, 2006).

Landsea?"³⁴⁷ Knutson remembers that Laborde soon called back to question Knutson about what he planned to say – especially with regard to any trends in hurricane activity – and “supplied a guarded response.” Laborde then wrote to Fuqua “that he is consistent, but a bit of a different animal. He isn’t on the meteorological side. He’s purely a numerical modeler. He takes existing data from observation and projects forward. His take is that even with worse case projections of green house gas concentrations, there will be a very small increase in hurricane intensity that won’t be realized until almost 100 years from now.” Two minutes later Fuqua responded, “Why can’t we have one of the other guys on then?” Laborde answers: “Bell is unavailable because of other commitments and Landsea is busy at the hurricane center with Wilma.” Knutson soon received a voicemail notifying him that the interview had been rejected.

Fuqua seems to have been quite busy at this time. In an email to Kent Laborde regarding a media request for Landsea to appear on NewsHour With Jim Lehrer two days later, he writes:³⁴⁸

please make sure Chris is on message and that it is a friendly discussion. I don’t want our people in a precarious position or subject to an ugly scene. I’m not completely comfortable with this, but feel its better than him not going on. I need a report on how it goes. Thanks.

Also, the interview you reference was done without our knowledge and I trust that won’t happen again. Thanks.

On October 19 – with Hurricane Wilma measuring in as the strongest cyclone to have hit the Atlantic Basin – Fuqua blankly rejects a request for an interview with Landsea on “why so many Cat...5s/global warming?” by the *Orlando Sentinel*.³⁴⁹ He explains, “I’d prefer that we not do this while dealing with a hurricane coming at us,” but it is unclear what other work the DOC PAO would have to do at this time.

Soon thereafter DOC began granting Landsea immediate approvals, and the NOAA PAO automatically steered reporters towards Landsea when hurricane-climate change inquiries came in.³⁵⁰ This occurred even when another scientist was specifically

³⁴⁷ Email From: Fuqua; To: Laborde; Date: Oct. 19, 2005; Subject: media request for tonight with Knutson *Thacker complete NOAA FOIA pg. 120, 122, 131-32, 135-36.*

³⁴⁸ Email From: Fuqua; To: Laborde; Date: Oct. 19, 2005; Subject: on Lehrer request... kent labored will [redacted?] *Thacker complete NOAA FOIA pg. 121, 124.* Originally, Fuqua had required the interview, which involved another scientist who did not share Landsea’s views, to go “back-to-back.”

³⁴⁹ Email From: Fuqua; To: Laborde; Date: Oct. 19, 2005; Subject: climate/hurricane interview request *GAP August 9, 2006, part 3 NOAA FOIA response pg 392.* It is possible that public relations officials with no scientific background such as Chuck Fuqua did not immediately grasp the distinction in scientific perspectives. Cf. Email From: Trinh; To: Smullen; Date: Sept. 20, 2005; clearance #7 – global dimming papers – science for Dutton 9-10 *Thacker complete NOAA FOIA response pg. 102-04.*

³⁵⁰ E.g., email From: Trinh; To: Laborde; Date: Oct. 27, 2005; Subject: #4 hurricanes media inquiry *Thacker complete NOAA FOIA response pg. 142;* Email From: Goldman; To: Laborde; Date: Oct. 19, 2005; Subject: hurricanes and global warming *Thacker complete NOAA FOIA response pg. 137;* Email From: Fuqua; To: Laborde; Date: Oct. 19, 2005; Subject: climate/hurricane interview request *GAP August 9, 2006, part 3 NOAA FOIA response pg 392;* Email From: David Miller; To: St. John, Smullen, Laborde;

requested. After Emanuel publicly charged NOAA with gagging its scientists, the *Providence Journal* tried to arrange an interview with Tom Knutson. Reporter Peter Lord writes:³⁵¹

Calls to NOAA's public-affairs office led to Kent Laborde, who was described as the public-affairs person who focuses on climate-change issues.

Laborde made it clear that the NOAA has discounted the research tying global warming to worsening hurricanes.

"What we've found is, if you look at a couple segments of science, observational or modeling, there is no illustrated link between climate change and hurricane intensity," Laborde said. "We actually have periods of intensity followed by periods of lower intensity. We have evidence of periods going back to the 1930s. It follows a clear pattern."

Laborde was asked if he would approve an interview with Knutson.

"What is the topic?" he asked.

"Emanuel's theories linking climate change to worsening hurricanes."

"Chris Landsea would be better. He's an observational scientist," Laborde said.

Furthermore, at least one scientist seems to have recognized the agency's preferences. In a November 17 recap, Hurricane Research Division meteorologist Dr. Stanley Goldenberg emphasizes, "the interview went well & dealt w/ the reasons for the busy season, climate fluctuations, global warming NOT being the primary reason for the activity, etc."³⁵² Indeed, Goldenberg was recommended for future interviews. In a November 28 email, Tom Hayden from National Geographic requests interviews with "some of the guys at HRD" while he is in Miami. OPCIA head St. John asks Goldman, "any of them climate experts as far as the long term activie/less [sic] active cycles?" Goldman responds "Stan Goldenberg is one of the main authors on the 2001 paper in Science that says we are in a natural cycle of more active hurricanes."³⁵³

Date: Nov. 4, 2005; Subject: [redacted] Global Climate Change & Impact on hurricane frequency *Thacker complete NOAA FOIA summary pg. 145-46.*

³⁵¹ Peter B. Lord, "Hurricanes are getting worse because of global warming," *Providence Journal* (March 26, 2006).

³⁵² Email From: Stanley Goldenberg; To: Jana Goldman; Date: November 17, 2005; Subject: Media Update: Ada Monzon -- Univision Puerto Rico *GAP August 9, 2006, part 3 NOAA FOIA response pg. 503.*

³⁵³ Email From: Goldman; To: St. John, Smullen, David P. Miller; Date: November 28, 2005; Subject: media request from [redacted] *GAP August 9, 2006, part 3 NOAA FOIA response pg. 516.* Goldenberg also expresses no concerns about political interference stating that "some of us NOAA scientists who are considered the experts on hurricane climate variability do not in any degree feel that we are being hindered in any way from honestly looking at and analyzing the data -- arriving at what we feel are the appropriate conclusions based on the science as we know it." Email From: Stanley Goldenberg; To: Jana Goldman; Date: March 28, 2006; Subject: Talking points concerning GW/Natural Variability and Hurricanes *GAP August 9, 2006, part 3 NOAA FOIA response pg. 720-21*

Media contact favoritism can create the impression of an agency consensus in the hurricane-climate change debate; however even prior to Hurricane Katrina this false consensus was made explicit. Shortly after resigning from the IPCC in protest over the "critical problem with the IPCC process," Dr. Christopher Landsea forwarded a media request that he had received from a French source to Goldman.³⁵⁴ Goldman then asked Landsea and the PAO headquarters to review a draft response claiming that "NOAA supports the view that there is no verifiable link between observed climate change and the intensity and frequency of the most recent Atlantic hurricane season."³⁵⁵ From the FOIA record, only Landsea responds: "I think your response looks fine.... There have no papers (NOAA or other folks) that have made any link between today's hurricane activity and observed global warming." This was less than five months after GFDL researcher Tom Knutson published his work on the impacts of CO₂-induced warming on simulated hurricane intensity and precipitation.

Press Conferences and Congressional Hearings

At the November 29, 2005, press conference marking the end of hurricane season, Drs. Max Mayfield and Gerry Bell were present to answer reporters' questions on NOAA's behalf. As director of the Tropical Prediction Center/National Hurricane Center (NHC) and founding meteorologist of NOAA's seasonal Atlantic hurricane outlooks respectively, this line up was not, in itself, inappropriate. On the other hand, the NHC and the Climate Prediction Center, where Bell is stationed, fall under the National Weather Service and deal primarily with short-term climate variability and forecasting. Thus, neither scientist was a specialist in long-term climate dynamics; nonetheless they fielded all inquiries concerning global warming and hurricanes. Indeed, one NOAA official noted in an email that "Max won't believe the research until it is unanimous."³⁵⁶

As reported in the *New Republic*, when asked about recent reports at the press conference that "global warming may have been responsible for the intensity of the storms," Bell states categorically "we see absolutely no indication whatsoever that greenhouse warming is causing any of it." Instead the storms' intensity was "part of the multi-decadal signal that we see. It's not related to greenhouse warming."³⁵⁷ Officially representing NOAA in interviews or speeches in the fall of 2005, this same position has

³⁵⁴ Email From: [Redacted], To: Peter Ortner, Judy Gray, Grank Marks, Evan Forde, Jana Goldman, Date: January 19, 05, Subject: Hurricanes, Global Warming and the IPCC *Thacker complete NOAA FOIA response pg. 2*; Email From: Landsea, To: Jana Goldman, Date: February 9, 2005, Subject: IPCC *Thacker complete NOAA FOIA response pg. 5-7*.

³⁵⁵ *Ibid.*

³⁵⁶ Email From: Webster, To: Rayder, Date: June 1, 2006 *GAP NOAA August 9, 2006, part 1 NOAA FOIA response pg. 363-367*.

³⁵⁷ John Judis, "The Government's Junk Science," *The New Republic* (November 2, 2006). One of our sources has noted that NOAA had never before taken an official position on such a raging scientific controversy.

been put forward by Mayfield on CBS's "Face the Nation" and by the NOAA Administrator at Weldon Springs, Missouri.³⁵⁸

Mayfield has also addressed the issue of climate change and hurricanes in front of Congress.³⁵⁹ On September 20, 2005, Mayfield told the subcommittee of the Senate Commerce Committee that "The increased activity since 1995 is due to natural fluctuations and cycles of hurricane activity, driven by the Atlantic Ocean itself along with the atmosphere above it and not enhanced substantially by global warming." According to an email eight days before the hearing, the NOAA OAR's Legislative Analysis Team was working with Landsea to come up with answers to the "Global Warming Question" and connected with Jennifer Sprague to discuss it.³⁶⁰ In early 2006, NOAA had developed an internal set of hurricane and climate change talking points – emphasizing natural variability – for congressional hearings.³⁶¹

However, with the publication of a number of damaging news articles and Congressional attention building up to the summer of 2006, this position became untenable.³⁶² In a June 1 email response to the House Subcommittee on Environment, Technology and Standards staff director pointing to the leaked talking points, head of legislative affairs Eric Webster writes: "I personally put [mention of an ongoing debate] in the last couple of speeches for the Admiral, put it in Max Mayfield's written and oral statements."³⁶³ A June 5 email shows Jennifer Sprague updating General Johnson's scheduled July 7 oral testimony "to reflect the ongoing debate on hurricanes and climate change and will be sending to Ahsha for her thoughts."³⁶⁴

Websites

In the November 2005 posting of NOAA Magazine Online, the headline story reads: "NOAA Attributes Recent Increase in Hurricane Activity to Naturally Occurring Multi-Decadal Climate Variability;" a later news item is entitled: "Consensus Among NOAA Hurricane Researchers and Forecasters."³⁶⁵ In February, GFDL director Ants

³⁵⁸ Sometime toward the end of 2005, Lautenbacher was personally provided with a PowerPoint by GFDL scientists, outlining the current understanding of climate change effects on hurricanes and including Tom Knutson's research. *GAP August 9, 2006, part 3 NOAA FOIA undated response pg. 85-91.*

³⁵⁹ Similarly, a March 30, 2006, email suggests that Dr. Landsea was also encouraged to attend a Hill briefing and was approved to attend without the typical requirement of a formal invitation. Email From: Landsea; To: Ferguson; Date: March 30, 2006; Subject: briefing on the Hill *GAP NOAA August 9, 2006, part 2 NOAA FOIA response pg. 82.*

³⁶⁰ Email From: Lartigue; To: Sprague; Date: September 12, 2005; Subject: language to specific questions *GAP NOAA August 9, 2006, part 2 NOAA FOIA response pg. 52.*

³⁶¹ OAR Q&As (undated). *GAP August 9, 2006, part 3 NOAA FOIA response undated pg. 26-75.*

³⁶² Email From: Webster; To: Bagley; Date: May 22, 2006; Subject: the scientists oral presentation *GAP NOAA August 9, 2006, part 1 NOAA FOIA response pg. 293.*

³⁶³ Email From: Webster; To: Rayder; Date: June 1, 2006 *GAP NOAA August 9, 2006, part 1 NOAA FOIA response pg. 363-367.*

³⁶⁴ Email From: Webster; To: Sprague; Date: June 5, 2006 *GAP NOAA August 9, 2006, part 1 NOAA FOIA response pg. 368, see also 292.*

³⁶⁵ Available at <http://www.magazine.noaa.gov/stories/mag184.htm> (last visited March 23, 2007). The news item references a sole paper by Christopher W. Landsea, Stanley B. Goldenberg, Alberto M. Mestas-Nunez, and William M. Gray.

Leetmaa expressed his disappointment to NOAA senior management over the media outcry that this incident had stirred up. "This is an embarrassment that NOAA could have easily avoided by inserting something like 'impacts of global warming can not be precluded' in the various press releases and Hill testimonies."³⁶⁶ A few GFDL scientists also began crafting a letter to Mahoney explaining their views on the subject and requesting that the posting be updated to "reflect a more complete view of the potential factors involved in the decadal scale changes in hurricane activity" or "more clearly state that this assessment is a view of a subset of research scientists within NOAA."³⁶⁷ Caught in the brewing controversy, Ahsha Tribble confided to Jennifer Sprague, Chris Scheve and Leah Harrelson of DOC, and NOAA Chief of Staff Scott Rayder, "what we are trying to say is that statement that was posted in the online NOAA Magazine was not an official NOAA position.... internally, we know that is was a statement drafted by public affairs that slipped through the system."³⁶⁸

Soon enough a footnote disclaimer was added at the end of the on-line magazine explaining that:

The consensus in this on-line magazine story represents the views of some NOAA hurricane researchers and forecasters, but does not necessarily represent the views of all NOAA scientists. It was not the intention of this article to discount the presence of a human-induced global warming element or to attempt to claim that such an element is not present. There is a robust, on-going discussion on hurricanes and climate change with NOAA and the scientific community.

Nonetheless, on February 17, 2006, six GFDL scientists wrote to Spinrad of NOAA OAR saying that by leaving the body of the text unaltered, the disclaimer was not enough to overcome the public's perception of a consensus position.³⁶⁹ Spinrad responds that he will bring their message to the leadership at a set of meetings on the subject scheduled for that day.³⁷⁰ As of March 22, 2007, the online posting had not changed.

³⁶⁶ From: Leetmaa; To: Koblinsky; CC: Mahoney, Rayder, Spinrad, Rosen, Atlas, Glackin; Date: February 12, 2006; Subject: Head's up: NOAA in the news/New Republic article on hurricanes and global warming *Greenpeace NOAA FOIA response pg. 14-30*. Dr. Leetmaa also warns that a similarly-misleading public denial of a climate change connection may arise "if significant droughts develop over the next year or so."

³⁶⁷ From: Delworth; To: Knutson; Date: February 13, 2006; Subject: Junk Science *Greenpeace NOAA FOIA response pg. 8-9*.

³⁶⁸ Email From Webster; To: Tribble; Date: February 10, 2006; Subject: Q&As in preparation for the Dep Sec's House Science Hearing *GAP July 31, 2006 NOAA FOIA response pg. 88-89*.

³⁶⁹ Email From: Ronald Stouffer; To: James Hansen; Date: February 16, 2006; Subject: WSJ piece *GAP August 9, 2006, part 3 NOAA FOIA response pg. 646-47*.

³⁷⁰ Email From: Richard Spinrad; To: Tom Delworth et. al.; Date: February 17, 2006; Subject: Hurricanes and Climate Change *GAP August 9, 2006, part 3 NOAA FOIA response pg. 651-53*.

Fact Sheets

It was ultimately one year after Hurricane Katrina, and with seeming reluctance, that NOAA took an affirmative step to counter its own misrepresentation of the science. A summary of the February 17 Senior Management Meeting mentioned above came up with the following recommendations for NOAA Administrator Conrad Lautenbacher:

We need to do a much better job anticipating issues that will generate media interest and get out in front of them. We should have worked a 'one NOAA' position on hurricanes/climate change last spring given the seasonal forecast. Chet will take the lead to develop this position now and will institute a process to anticipate other issues (e.g. La Nina and drought) and be pro-active with PA....

The WMO statement on climate change and hurricanes is a good statement. Ahsha is drafting talking points to be used by PA when their press release goes out on Monday. This will emphasize the current state of flux of our knowledge and point to CCSP Synthesis and Assessment Products that are designed to answer these very questions.

Definitive statements about the state of understanding of complex science issues demand a rigorous process that draws from a broad knowledge base and employs independent review. This is being used in IPCC and in CCSP Synthesis and Assessment Products.

As reported in *Nature*, what ensued was the "creation of an internal seven-member panel charged with preparing a consensus statement on the views of NOAA researchers on hurricane science."³⁷¹ The final document was finalized in mid-May in preparation for the start of hurricane season in June, but according to records obtained by *Nature's* Jim Giles, was held up at DOC:³⁷²

When asked about the document, NOAA Administrator Conrad Lautenbacher told *Nature* that it was simply an internal exercise designed to get researchers to respect each other's points of view. He said it could not be released because the agency cannot take an official position on a field of science that is changing so rapidly. But panel members contacted by *Nature*, including Leetmaa, disagree strongly with this interpretation. Internal NOAA and Commerce-Department e-mails also discuss the timetable for the document being "cleared" for "distribution". The draft states that it refers to the "current state of the science" and does not contain "any statements of policy or positions of NOAA".

³⁷¹ Jim Giles, "Is US hurricane report being quashed?" *Nature* (September 26, 2006). Incidentally, responding to an email by Jennifer Sprague inquiring as to his participation in a near final version of the fact sheet, Dr. Landsea expresses that he was involved reluctantly because he preferred not to "try to summarize what is going on in the field." *Oveta NOAA Aug 9 pt 2 FOIA response pg. 83*

³⁷² An "Issue Assessment" in our records suggests the final draft may have been ready and awaiting approval as early as April 28, 2006. *GAP August 9, 2006, part 3 NOAA FOIA response pg. 813*; See also Email From: Webster, To: Rayder, Date: June 1, 2006 *GAP NOAA August 9, 2006, part 1 NOAA FOIA response pg. 367*.

The fact sheet was finally posted days after Giles' article was published. There appeared to be no major changes between it and an earlier April 13 draft obtained in our investigations.³⁷³ Neither draft cites CCSP or IPCC products. Moreover, as recently as August 8, 2006, NOAA issued a press release stating:³⁷⁴

According to Gerry Bell, Ph.D., NOAA's lead seasonal hurricane forecaster, the major climate factors expected to influence this year's activity are the ongoing multi-decadal signal, which produces wind and atmospheric pressure patterns favorable for hurricane formation, along with ongoing warmer-than-normal sea surface temperatures. NOAA attributes these same factors to the current active Atlantic hurricane era that began in 1995.

³⁷³ Compare <http://hurricanes.noaa.gov/pdf/hurricanes-and-climate-change-09-2006.pdf> (last visited on March 23, 2007) with NOAA Fact Sheet (April 13, 2006) *NOAA August 9, 2006, NOAA FOIA response pg. 638-40*. In an October 4, 2006, letter, House Science Committee ranking member Gordon wrote Lautenbacher: "It is hard to know how to come to any meaningful conclusion except that the Department of Commerce sat on this report in its review process. NOAA reviews had been completed by early May; only Commerce's review stood between this consensus report and the public. Your personal approval of its contents was apparently insufficient to see the report released." Available at http://sciencedems.house.gov/Media/File/AdminLetters/noaa_hurricane-faq_letter_04oct06.pdf (last visited on March 23, 2007). Noting "the inconsistencies between your story as portrayed in *Nature* and the story implicit in your staffer's e-mail and Leetmaa's contention," Gordon requests that Lautenbacher provide detailed information about the development of the FAQ by October 13. "Fundamentally, I am baffled at the proliferation of non-scientists in public affairs offices—many of whom are political appointees with no scientific qualifications, but perfect partisan credentials—continuing to insert themselves into shaping what the public can hear from our federal scientists."

³⁷⁴ Available at <http://www.publicaffairs.noaa.gov/releases2006/aug06/noaa06-068.html> (last visited on March 23, 2007).

THE CHAIN OF COMMAND

Congressional correspondences, complaints from scientists and lab directors, and internal emails that forward damaging media reports to agency leadership demonstrate – though often discounted to be solely a problem of perception or poorly-implemented policy – that officials up to the highest levels are aware of problems in their agency.³⁷⁵ At NOAA this includes Administrator Lautenbacher, Chief of Staff Scott Rayder, former Deputy Administrator Mahoney, Deputy Undersecretary John J. Kelly Jr., OAR Assistant Administrator Dr. Rick Spinrad, Director of the Climate Program Office Chester Koblinsky, Director of NOAA's Aeronomy Laboratory Dr. Daniel Albritton, policy advisors Jennifer Sprague and Tribble, as well as OPCIA staff Jordon St. John and Scott Smullen, and communications officer Randee Exler.

Although we contacted these individuals for comment, most of them never responded. One exception was Spinrad, who noted:³⁷⁶

As for the issue of scientific integrity and free speech, I am firmly convinced that our organization stands by and adheres to the strongest principles of open and free exchange of scientific research results.

When asked about the complaints from scientists, Sr. Spinrad added:

I am well aware of these concerns and am working with our lab directors and scientists to try to address these concerns. I believe much of the problem in perception stems from not having well-understood and easily applied processes for working with the media.

The FOIA record shows that senior management largely dismissed reports of interference. Richard Him, General Counsel for the National Weather Service's Employees' Organization, concurs:

Our union... has been keeping a keen eye on this issue in NOAA, where we represent five different bargaining units of employees, including NOAA's hurricane research scientists. Frankly, though it may come as a surprise to those who do not trust the Bush administration generally (myself very much included - I am a partisan active Democrat and serve on the Kerry campaign), NOAA's

³⁷⁵ See, e.g., Email From: Jeffrey Donald; To: Scott Ryder, Conrad Lautenbacher, James Mahoney, Kelly, St. John, Fuqua, Godfrey, Barnett, Martin, Tribble; Date: February 10, 2006 *GAP May 30, 2006 NOAA FOIA response pg. 35-37* (circulating the *Washington Post* article); Email From: Eric Webster; To: Jennifer Sprague, Absha Tribble, Richard Spinrad; Date: March 27, 2006; Subject: Providence Journal article on hurricanes and global warming "NOAA hiding truth..." *GAP May 30, 2006 NOAA FOIA response pg. 83-87* (circulating the Peter Lord article, Webster writes, "This is not good."). See also Email From: Jordan St. John; To: James Mahoney; Date: March 27, 2006; Subject: hurricanes and climate change information story in Sunday Rhode Island Journal *GAP August 9, 2006, part 3 NOAA FOIA response pg. 715-19*; Email From: Mary Glackin; To: Conrad Lautenbacher; Date: February 17, 2006; Subject: Hurricanes and Climate Change Communication & other issues *GAP August 9, 2006, part 3 NOAA FOIA response pg. 667*.

³⁷⁶ Richard Spinrad, communication with Maassarani (October 11, 2006) *record on file with GAP*.

leadership has not interfered with or "muzzled" its employees in any way on this issue. While NOAA has issued advice to its employees that it should work through NOAA's Office of Public Affairs when speaking formally on behalf of the agency which is certainly the agency's legal prerogative, it has also assured employees, in writing, that they are free to speak to the press and to Congress without limitation when expressing their own views (as opposed to formal agency views) or when expressing the views of the union.

Admittedly, scientists may be part of problem.³⁷⁷ Dr. Robert Atlas, head of AOML, contends:³⁷⁸

I think part of the problem is that many scientists were unaware of NOAA's policy on publications and media interviews. In addition, some individuals might think that any review by management is an attempt to stifle their work or conclusions. My experience in NOAA is completely to the contrary, with review by NOAA only serving to ensure that the conclusions are based upon solid science. On the specific issue of whether the increase in hurricane activity that was observed in 2004 and 2005 is due to natural fluctuations or anthropogenic global warming, most of the scientists involved believe very strongly (almost religiously) in their conclusions. In some instances they may be unwilling to acknowledge the limitations of their studies, and that may be where the perceptions come from.

In addition, media editorials often fail to capture the nuance and context of a particular story. Insofar as misperceptions do exist, members of the media and public interest community have been guilty of perpetuating and aggravating them; generalizing, and exaggerating a few isolated incidents and the testimony of a few individual scientists to create the impression that there is a conspiracy of "censorship." It is the hope of this report to sharpen legitimate criticism and target it to where it is due.

To be sure, it is evident from the actual experiences of scientists, the FOIA record, other inside sources, and factual news reports that a rough pattern of inappropriate interference with the communication of science does exist, and may ultimately politicize the work environment so as to influence scientific research itself. In contrast to headquarters and executive leadership, mid- and low-level and regional administrative support for "sensitive" research results and sympathy for the scientists' concerns seems to run high.³⁷⁹ At the beginning of the Bush administration, a NOAA staffer wrote to Jana

³⁷⁷ Glen Talia, General Counsel for NOAA Administrator's office, believes management philosophy puts science and transparency first. "I was never involved in a situation where we change the facts [rather] people perpetuate a rumor.... Scientists are a myopic bunch. [They are] impatient and don't understand there is a process or legal requirements." Interview with Maassarani (July 19, 2006) *record on file with GAP*.

³⁷⁸ Robert Atlas, communication with Maassarani (October 12, 2006) *record on file with GAP*.

³⁷⁹ See Email From: Jana Goldman, To: Debby Kay, Date: January 18, 2001; Subject: New Scientist: An ill wind *GAP August 9, 2006, part 3 NOAA FOIA response pg 14*; Email From: Goldman, To: David Goodrich, Stephanie Harrington, Date: October 8, 2002; Subject: CNN.com - Climate change costs \$150 bln a year: report - Oct. 8, 2002 *GAP August 9, 2006, part 3 NOAA FOIA response pg. 149* (forwarding

Goldman at the OAR PAO accompanying a January 20, 2001, *New Scientist* article, "Jana; this has some good info in it concerning Bush's cabinet choices and their skepticism against our Global Warming programs."³⁸⁰ Years later, Mrs. Goldman sent a casual email to a colleague forwarding the April 10, 2005, *Raw Story* article, "this may give you a bit of insight on what's going on. Thanx [sic] for your indulgence and understanding."³⁸¹

Our investigation suggests that incidents of interference and restrictive policies largely originate in the Council on Environmental Quality, Office of Management and Budget, Office of Science and Technology Policy, Department of Commerce, various headquarters offices, and politically-appointed agency staff.³⁸² Documents recently obtained by the House Oversight and Government Committee also suggest some collaboration with the Office of the Vice President.³⁸³ In an April 23, 2003, memo, former CEQ Chief of Staff Philip Cooney discussed the controversial Soon-Baliunas study refuting climate change with Kevin O'Donovan, an aide to Dick Cheney. According to the committee chairman, Cooney wrote, "we plan to begin referring to this study on administration communications on climate change... It represents an opening to potentially reinvigorate debate on the actual climate history of the past thousand years."³⁸⁴ At the same time, the administration has not always consulted its own high-level federal scientists on controversial scientific issues.³⁸⁵

article on climate change); Email From: Stouffer; To: Delworth, Dixon; Date: July 6, 2004; Subject: Noaa media policy *Greenpeace NOAA FOIA response pg. 40-42*; Thomas Delworth, interview with Maassarani (April 13, 2006); Email From: Goldman; To: Steven Carson; Date: February 1, 2001; Subject: GRI. paper *GAP August 9, 2006, part 3 NOAA FOIA response pg. 28* (press officer supportive of press release).

³⁸⁰ Email From: Ann Thomason; To: Jana Goldman; Date: October 5, 2005; Subject: Welcome to my world *GAP August 9, 2006, part 3 NOAA FOIA response pg. 369*.

³⁸¹ *Ibid.*

³⁸² On June 13, 2006, Sen. Lieberman (D-CN), chair of the Senate Homeland Security and Governmental Affairs Committee, sent a letter to Marburger stating that "the occurrence of allegations across four different government agencies raises the possibility that negative signals regarding scientific openness, particularly as regards climate change, might be traveling from a central source of authority to multiple Executive Branch departments" and urging Marburger to "investigate that possibility and report your findings to me." Available at http://hsgac.senate.gov/files/Dem_Files/060613Marburger.pdf (last visited March 23, 2007). Marburger, a scientist and lifelong Democrat, responded that these incidents resulted from "lower level employees not effectively articulating the administration's position on matters of scientific openness," and that "high-level" policy officials were concerned by their actions. Letter dated November 16, 2006. Lieberman also wrote to Lautenbacher asking him to develop a "detailed policy outlining mechanisms for public dissemination of scientific findings at NOAA." He further requested that Lautenbacher "determine whether NOAA officials have been operating according to any unofficial guidance on managing the public dissemination of findings reached by the agency's climate scientists and ascertain the origin of that guidance.... If evidence of any such guidance is not discovered, investigate and determine why the conduct referenced in the first paragraph of this letter nevertheless appears to have occurred."

³⁸³ Lauren Morello, "House probe turns to role of Cheney's office," *Environment and Energy Daily* (March 20, 2007).

³⁸⁴ *Ibid.*

³⁸⁵ According to the *Washington Monthly*, this has included Dr. Bierbaum, a Clinton administration appointee who served into the first year of Bush's term at OSTP. Nicholas Thompson, "Science friction: the growing – and dangerous – divide between scientists and the GOP-Republican Party, George W. Bush and scientific policy," *Washington Monthly* (July/August 2003). The article also notes that it took

Executive office supervisors, political appointees, and staff hired for their party loyalty may have an ideological basis for downplaying “sensitive” science. Consider the following individuals that have been identified earlier in this report.

According to *Raw Story*, Jim Teet “had supported Karen Hughes’ defense of then Governor George W. Bush’s National Guard record” before he took up a position as a regional NOAA PAO director and re-interpreted the 2004 media policy to require blanket pre-approval.³⁸⁶ Before being appointed press officer at NASA headquarters, where he rejected Hansen’s media requests, the 24-year old George Deutsch worked for the Bush/Cheney reelection campaign.³⁸⁷ Similarly, DOC press officer Chuck Fuqua used to be the Director of Media Operations for the 2004 Republican National Convention.³⁸⁸ Michael Catanzaro, who is currently an aide to EPA Deputy Marcus Peacock and has been accused of cozying up to industry,³⁸⁹ served earlier as deputy environmental policy director for the Bush-Cheney reelection team.³⁹⁰ In between these positions, Catanzaro served at CEQ, where he held close ties with CEI,³⁹¹ and as a communications director for Inhofe’s Senate Environment and Public Works Committee.³⁹² Political appointees of all stripes, including James Mahoney, Christie Whitman, John Marburger, and Jordan St. John, have likely encountered a conflict between the integrity of the science they represent and their political affiliations.

seven months to choose a White House science adviser for the Office of Science and Technology Policy. Once Bush had appointed a head of OSTP, he demoted the rank of the position, moved the office out of the White House, and cut the number of associate directors from four to two... Moreover, Bush appointed to one of the two associate director positions Richard Russell, a Hill aide credentialed with only a bachelor’s degree in biology, and let him interview candidates for the job of director. “It bothers me deeply [that he was given that spot], because I don’t think that he is entirely qualified,” says Allen Bromley, George H. W. Bush’s science adviser, who worked for some of his tenure out of prime real estate in the West Wing of the White House. “To my astonishment, he ended up interviewing some of the very senior candidates, and he did not do well. The people he interviewed were not impressed.”

³⁸⁶ Larisa Alexandrova, “Commerce Department tells National Weather Service media contacts must be pre-approved,” *The Raw Story* (October 4, 2005).

³⁸⁷ Andrew Revkin, “A Young Bush Appointee Resigns his Post at NASA,” *The New York Times* (February 8, 2006).

³⁸⁸ See Democracy in Action, the Republican National Convention 2004 available at <http://www.gwu.edu/~action/2004/convs/reconvorg.html> (last visited on March 23, 2007).

³⁸⁹ Frank O’Donnell, “Don’t Bet Your Lungs on This,” *Tompaine.com* (August 24, 2006). According to O’Donnell, emails in EPA’s official regulatory docket reveal a mining association lobbyist sending Catanzaro “legal briefs,” “responses to your questions,” and “a follow-up to yesterday’s conversation.”

³⁹⁰ Darren Samuelsohn, “Lieberman aide to lead Duke enviro institute,” *Greenwire* (February 23, 2005). Before this, he was a columnist for “The National Conservative Weekly,” writing such articles as “Kyoto, Iraq, Global Warming, and Political Blackmail,” “No Global Warming Consensus,” “Green Alarmist Fantasy,” and “Glaciers, ‘Global Warming,’ and NY Times Hysteria.” See http://www.humaneventsonline.com/search.php?author_name=Michael+Catanzaro (last visited on March 23, 2007).

³⁹¹ See Email From: Marlo Lewis; To: Michael Catanzaro; Date: May 27, 2005; Subject: EIA numbers available at http://www.whitehouse.gov/ceq/foia/cei/2_ex_142.pdf (last visited on March 23, 2007).

³⁹² Cf. <http://epw.senate.gov/pressitem.cfm?party=rep&id=213589> (last visited on March 23, 2007).

In turn, long-term, professionally-minded career bureaucrats at all levels can be expected to act upon ideological signals in order to “fit in” and satisfy their supervisors. As one lab director stated:³⁹³

An environment of “avoidance of discussion of global warming issues” somehow does pervade the Agency. Part of this probably does come down from DOC and above, part of it probably originates in the fact that Admiral Lautenbacher himself is not a “fan” of global warming and research and modeling in general. His sense of priorities no doubt consciously or unconsciously affects the staff around him.

Although as far as I know and can tell, there have been no administration/NOAA directives to say that the words “global warming” cannot be used, middle managers in instances that I know of have attempted to suppress the use of these words in communications – my guess is that such folks for the most part are overzealous and self directed; however, this also shows lack of policy guidance on this matter by NOAA.

Nonetheless, our investigation has uncovered numerous instances where mid- and low-level officials are directly ordered to carry out actions that interfere with the communication of “sensitive” science. These internal directives largely avoid official channels and follow an opaque chain of command such that personnel who are not directly involved often remain unaware of them.³⁹⁴ Consider the testimony of Mr. X, a public affairs officer whose name and agency have been withheld to protect his anonymity.³⁹⁵

Mr. X had assumed a position at the agency PAO that his predecessor had “begged to be reassigned” from. He describes a role that was extremely pressure-filled, often finding himself forced to do things he would otherwise be unwilling to carry out. When the movie the “Day After Tomorrow” came out and heightened the debate on climate change, “We had scientists at that time who were speaking to the press of their views from a scientific standpoint and my boss told me you are not to substantiate this; make it look like the scientists are out there on a limb, the agency is not backing them up.” On another occasion, he was told, ““You make him be quiet... get that guy to stop speaking to the public.... It’s your job... I cannot believe you cannot control that person.”” In cases like this, Mr. X was warned to be careful that nothing was in writing. Rather “I was usually summoned to XXX’s office, usually with XXX [both top officials] there and the door closed.”

At times, Mr. X sat in on phone calls from his superior’s office to the White House, including the Office of Science and Technology Policy (OSTP), where he would need to explain “the situation.” According to Mr. X, interference was effectively top-down with the political appointees giving orders that career employees would follow in

³⁹³ Anonymous lab director, communications with Maassarani (October 19, 2006) *record on file with GAP*.

³⁹⁴ Cf. Andrew Revkin, interview with Maassarani (June 1, 2006); Andrew Revkin, “NASA Chief Backs Agency Openness,” *The New York Times* (February 4, 2006).

³⁹⁵ Anonymous public affairs officer, interview with Maassarani (May 10, 2006) *record on file with GAP*.

order to keep their jobs. He found himself in a particularly tough position since he was the pivotal person between the political appointees directly above him and the scientists with whom he interacted as well as all the mid-level PAO employees that he managed.

Mr. X had to inform his superiors of any interview requests from major news outlets (e.g. *USA Today*, *New York Times*) concerning climate change. They would require minute details about whom and what the interview involved, and then get into whether or not the interviewee was a “loose cannon” or someone who would “go along with the company line.” If the former, Mr. X was asked to convince reporters to talk with someone else, often by saying “Oh, such and such is not going to be available, but I’ve got such and so.” As regards interview monitoring, Mr. X recalls that “we were supposed to tell them that we would do it to make sure of no misquotes.” Although he admits there may be some truth to this, it has only happened twice while he was there.

When it came to climate-related press releases mentioning “global warming,” “warming,” “melting,” and “glaciers,” Mr. X’s superiors added an extra step to the ordinary press release procedures. Although his superiors only had final review in the normal review and clearance process, Mr. X was told to bring “sensitive” draft releases first to them. Further, Mr. X was instructed not to email the drafts, but rather to print them out and hand-deliver them to their offices. When the superiors did not fancy certain press releases, Mr. X was supposed to tell the researchers that submitted them that they were not news-worthy, that there were too many press releases on this particular topic already, or “some other excuse.” When laboratory directors were already aware of the drafts and it was too conspicuous for them to be rejected in this way, Mr. X’s superiors undermined them by having another press officer mark them up so that they would require heavy reworking. By beings sent back for editing often over multiple iterations, press releases died of lack of timeliness.

How similar are Mr. X’s experiences to those in the other climate-science agencies? Across agencies and programs, the evidence presented in this report suggests that isolated and informal lines of communication tie White House officials and top political appointees to the deliberate interference with media, congressional, and public dissemination of climate science. In addition, consider our express FOIA requests for any and all communications dealing with public affairs officials. The resulting documents disclosed constant communications between scientists, media, and press officers – and references to upper-level, departmental, and White House review – but almost no actual communications between press officers and the entities from which pre-approval was required with regard to media requests, press releases, congressional testimony, and other public appearances presentations.³⁹⁶ Moreover, PAO sources working outside of headquarters did not themselves know who and how pre-approval was

³⁹⁶ Note that NOAA withheld a number of documents under exemption 5(b) of the Freedom of Information Act, which protects “pre-decisional, intra and inter agency deliberative communications” It is our understanding that this covers advice, recommendations, and opinions made in the decision-making process, but not actual clearance decisions themselves.

actually attained.³⁹⁷ Political sensitivities transmitted down an opaque chain of command from the highest ranks offers an explanation for the varying conceptions of the problem among scientists and administrative personnel at different levels of the agency.

³⁹⁷ Jana Goldman, interview with Maassarani (October 7, 2006) *record on file with GAP*; Anonymous public affairs official, interview with Maassarani *record on file with GAP*.

RECENT DEVELOPMENTS

NASA

On February 4, 2006, shortly following Hansen's allegation of "muzzling," NASA Administrator Michael D. Griffin issued the following agency-wide statement:³⁹⁸

I want to make sure that NASA employees hear directly from me on how I view the issue of scientific openness and the role of public affairs within the agency.

First, NASA has always been, is, and will continue to be committed to open scientific and technical inquiry and dialogue with the public. The basis for this principle is codified in the Space Act of 1958, which requires NASA to "provide for the widest practicable and appropriate dissemination of information concerning its activities and the results thereof."

Second, the job of the Office of Public Affairs, at every level in NASA, is to convey the work done at NASA to our stakeholders in an intelligible way. It is not the job of public affairs officers to alter, filter or adjust engineering or scientific material produced by NASA's technical staff. To ensure timely release of information, there must be cooperation and coordination between our scientific and engineering community and our public affairs officers.

Third, we have identified a number of areas in which clarification and improvements to the standard operating procedures of the Office of Public Affairs can and will be made. The revised policy, when complete, will be disseminated throughout the agency.

I want to encourage employees to discuss this issue and bring their concerns to management so we can work together to ensure that NASA's policies and procedures appropriately support our commitment to openness.

On March 30, 2006, Administrator Griffin issued a new "policy on the release of information to the news and information media," crafted by a working group comprising representatives from science, engineering, law, public affairs and management.³⁹⁹ House Science Committee Chair Sherwood Boehlert lauded the policy as "a model for the entire federal government."⁴⁰⁰ OSTP head John Marburger has since urged all federal agencies and departments to adopt similar media contact policies.⁴⁰¹ The policy supports

³⁹⁸ Available at http://www.nasa.gov/audience/formedia/features/communication_policy.html (last visited on March 23, 2007).

³⁹⁹ *Ibid.* More than 140 NASA scientists, engineers and other civil servants signed a statement applauding Griffin's revision of the media policy. Andrew Revkin, "Call for Openness at NASA Adds to Reports of Pressure," *The New York Times* (February 16, 2006). "His subsequent actions have reinforced his words," the statement said.

⁴⁰⁰ See <http://www.house.gov/science/press/109/109-218.htm> (last visited in February 2007).

⁴⁰¹ See Letter From: Bart Gordon, Brad Miller, To: Stephan L. Johnson (EPA Administrator), Date: March 15, 2007.

principles of openness and establishes a commitment to disseminate important research findings in a timely and transparent manner. It clarifies the relevant procedures, provides for an explicit "personal views exception," prohibits public affairs from editing scientific content, anticipates the development of approval criteria, and establishes a dispute resolution mechanism "to ensure that all parties have a route of appeal in communicating scientific and technical information."

The policy falls markedly short in some respects. The policy continues to require pre-approval by NASA headquarters public affairs and denies scientists' "final right of review" for all "press releases, media advisories, news features, and web postings [with] the potential to generate significant media, or public interest or inquiry."⁴⁰² Moreover, the responsibility for this clearance, the timing of the clearance, the development of approval criteria, and the consideration and resolution of disputes lies with the politically-appointed assistant administrator of public affairs. As discussed in the legal section below, GAP has found that this policy violates the First Amendment, Anti-Gag Statute, and Whistleblower Protection Act (WPA).⁴⁰³

Nonetheless, for GISS scientist Shindell, it was important that Administrator Griffin spoke out about openness and emphasized that his scientists should not be prevented from talking to the press.⁴⁰⁴ Shindell subsequently noted positive changes in his work environment. "I've had much better experiences recently, and the press corps at GSFC is no longer reluctant to use phrases like 'climate change' or 'global warming,' which they were before as they had the feeling that that would 'doom' a release." This sentiment has been echoed by a number of scientists both inside and outside of NASA.⁴⁰⁵ However, GISS scientist Shindell questioned whether the new policy will, in practice, be fundamentally different:⁴⁰⁶

We go through the same procedures basically, with in fact another layer of "scientific approval" where scientists look over the material first before public affairs. These are good people and seem to do a good job, but it's just yet another layer of bureaucracy. As far as I know, the political appointees are also still there, but lying low for the present.

According to a NASA FAQ, Griffin's working group is currently overseeing the development of new procedures implementing the policy that will be available in the "near future."⁴⁰⁷

⁴⁰² The directive excludes scientific and technical reports, web postings designed for technical or scientific interchange, and technical information presented at professional meetings or in professional journals.

⁴⁰³ See *Legal Analysis* section below.

⁴⁰⁴ Drew Shindell, communications with Maassarani (May 25, 2006) *record on file with GAP*.

⁴⁰⁵ Anonymous NOAA director, interview with Maassarani (June 1, 2006) *record on file with GAP*; Anonymous scientist, interview with Jennifer Freeman (June 27, 2006) *record on file with GAP*.

⁴⁰⁶ Drew Shindell, communications with Maassarani (May 25, 2006) *record on file with GAP*.

⁴⁰⁷ NASA Public Affairs Policy FAQ at pg. 5 *available at* http://www.nasa.gov/audience/formedia/features/communication_policy.html (last visited on March 24, 2007).

NOAA

At about the same time that Administrator Griffin stated NASA's commitment to scientific openness, NOAA Administrator Lautenbacher sent an agency-wide announcement entitled "encouragement of scientific debate and transparency":

There have been several print and internet articles recently that have tried to make a case that NOAA scientists are being muzzled. For example, a few recent media reports have (incorrectly) asserted that some NOAA scientists have been discouraged from commenting on the question of whether human caused global warming may be influencing the number or intensity of hurricanes. Let me state in the most direct terms that I am a strong believer in open, peer reviewed science as well as the right and duty of scientists to seek the truth and to provide the best scientific advice possible. When I answer questions on NOAA missions, my answers are formed on the basis of the scientific papers that I have personally read, or have been informed by you in the course of NOAA business.

Peer reviewed science speaks for itself and doesn't need me or anyone else to interpret or modify the results. For those of you who know me personally, you realize that I encourage and actively pursue vigorous debate on all topics, particularly including science related to NOAA's mission. The purpose is to get as close to the truth and the facts as possible. I expect my management team to adhere to this policy of scientific openness as well.

Our media standards also reflect an open policy. We encourage our public affairs staff to keep abreast of media interests. I encourage our scientists to speak freely and openly. Dozens of you every day are talking to the media and providing the results of peer reviewed science across a wide variety of NOAA topics. We ask only that you specify when you are communicating personal views and when you are characterizing your work as part of your specific contribution to NOAA's mission. Also, I ask that you respect, and seek to understand, each other's work within NOAA. We have many disciplines and centers of excellence within NOAA, all contributing substantially to the body of earth science knowledge. Be tolerant of each other as would your colleagues around the nation and the world. "One NOAA" should apply to our work as scientists as well as our management structure!

Unlike with NASA, the Administrator took no action to address scientists' concerns and review NOAA's 2004 media policy, which contradicted his own statement's provision of a "personal views exception."⁴⁰⁸ Despite this new source of confusion, damaging media coverage, congressional pressure, and internal complaints, NOAA seemed to register no reservations about its guiding policy. On April 19, 2006, in response to a *Washington Post* article criticizing the agency for muzzling its scientists, Administrator Lautenbacher published an editorial that held steadfastly to the defense that no political appointees had influenced research on climate change and "that the Bush

⁴⁰⁸ "Message from the Undersecretary" (October 3, 2006).

administration has supported scientists in the form of significant budget increases.”⁴⁰⁹ In a March 31, 2006, email, Eric Webster, OLA director, responded to an inquiry about revisiting NOAA’s policy in light of NASA’s reform by the Democratic Senior Counsel to the Senate Commerce, Science, and Transportation Committee:⁴¹⁰

Thanks for the email. As you know, NOAA already has a media policy which is open but requires folks to tell the Public Affairs office before an interview.... I have forwarded your message to Rick Spinrad, Jack Kelly and others letting them know of your interest and concern. I will follow up on any decisions. I know that Rick has done some internal examinations but do not know the [sic] if there will be any changes based on the results. Again, I believe folks were okay with the media policy in its current form.

Webster’s response stemmed from the understanding reached at a Senior Management Meeting summarized in a February 17, 2006, communication written by Mary Glackin, Assistant Administrator for NOAA’s Office of Program Planning and Integration, to Dr Lautenbacher, the agency, and lab leadership.

Admiral –

I wanted to bring you up to date with some of the actions underway regarding communication of information on climate change and hurricanes and associated issues. Several of the individuals copied on this email met with Dr. Mahoney this afternoon and confirmed [that] NOAA has a good policy. However, we could do more to explain the policy and the implementation procedures associated with it. Rick Spinrad will take the lead working with PA to develop material in this regard.

That same day, Senator Barbara Mikulski (D-MD) requested a GAO investigation of the policies and practices of key federal science agencies to ensure openness in communication of federally-supported science results.⁴¹¹ By April 10, 2006 – upon the House Science Committee’s request – NOAA had established plans to review its media policy.⁴¹² In an email to Nat Wienecke, Assistant Secretary for DOC Legislative and Intergovernmental Affairs, Eric Webster at NOAA Office of Legislative Affairs, explained: “This is the plan for NOAA’s review of the Media Policy - it will go to the Department [of Commerce] right after NOAA NEP/NEC process is complete”. The email includes a target date for beginning employee trainings for the new policy on June

⁴⁰⁹ Conrad Lautenbacher, “We’re Funding Climate Science, Not Muzzling It,” *Washington Post* (April 19, 2006).

⁴¹⁰ Email From: Eric Webster; To: Margaret Spring; Date: March 31, 2006; Subject: NASA policy on Release of Public Information *GAP May 30, 2006, NOAA FOIA response pg. 98-99.*

⁴¹¹ Letter to Comptroller General available at <http://mikulski.senate.gov/record.cfm?id=25171> (last visited on March 23, 2007). This investigation is still underway.

⁴¹² Email From: Brian Gross; To: Ronald Stouffer; Date: April 10, 2006; Subject: Revisions to NOAA’s media Policy *GAP August 9, 2006, part 3 NOAA FOIA response pg. 735-39*; Email From: Garret Graves; To: Eric Webster; Date: April 12, 2006; Subject: Climate change hearing and detailee *GAP July 31, 2006, NOAA FOIA response pg. 68-69.*

1, 2006.⁴¹³ Prepared responses to congressional Q&As dated April 27, 2006, stated that “NOAA is working with the Department of Commerce to evaluate our media policy to make sure that is [sic] appropriate for NOAA.”⁴¹⁴ Department of Commerce had long been aware of problems with the media policy. As early as July 2005, the FOIA record shows that Ahsha Tribble had relayed headquarter PAO concerns up “the chain to DOC level to get their firepower in brokering more autonomy to make decisions... particularly addressing the problem of media...”⁴¹⁵

It is now 2007 and what has happened to the policy revisions? According to inside sources, NOAA opposes a DOC-proposed “one-size-fits-all” media policy “because [it was] not well tailored to NOAA’s needs.”⁴¹⁶ Questioned under oath at a January 30, 2007, hearing on climate science integrity before the Senate Commerce, Science, and Transportation Committee, NOAA Deputy Assistant Secretary of Commerce for International Affairs and acting CCSP Director Dr. William Brennan stated that a new NOAA media policy would be announced within a couple of weeks.⁴¹⁷ As of the date of publication, no new policy has been released, leaving the 2004 media policy issued by NOAA Administrator Lautenbacher in place as the agency’s formal position.⁴¹⁸

Another significant delay facing NOAA and the CCSP is the appointment of a new Assistant Secretary of Commerce for Oceans and Atmosphere and NOAA Deputy Administrator – a single post that has been left vacant since the departure of Dr. Mahoney at the end of March 2006. In late 2006, the President nominated Jane C. Luxton, a corporate lawyer with no graduate science education who represents U.S. and foreign industry clients on national and international environmental regulatory matters for the

⁴¹³ Email From: Webster, To: Wienecke, Date: April 12, 2006; Subject: NOAA Media Policy *GAP May 30, 2006, NOAA FOIA response pg. 115*; Email From: Webster, To: Wienecke, Date: April 13, 2006; Subject: NOAA Media Policy *GAP July 31, 2006, NOAA FOIA response pg. 63-65*. The NOAA Executive Council is the agency’s highest level executive management body, chaired by Lautenbacher and consists of the 13 principals and 7 supporting members. See Email From: Lautenbacher, Date: March 6, 2003; Subject: Message from the Under Secretary – Introducing NOAA’s Executive Council *Greenpeace select hurricane NOAA FOIA pg. 21-22*.

⁴¹⁴ Question #15, NOAA’s Media Policy, response prepared for the Senate Commerce Disaster Prediction and Prevention Subcommittee Hearing on Drought and NIDIS *GAP August 9, 2006, part 3 NOAA FOIA response pg. 801*.

⁴¹⁵ Email From: Goldman, To: Laborde, Date: July 5, 2005; Subject: fodder *Thacker complete NOAA FOIA response pg. 43-45*.

⁴¹⁶ Anonymous NOAA officer (May 6, 2006) *record on file with GAP; Jana Notes*

⁴¹⁷ In a letter to NOAA management, delivered March 8, 2007, GAP offered its assistance in developing a more effective, coherent, and trust-enhancing media policy. Available at http://whistleblower.org/doc/0100_001.pdf (last visited on March 24, 2007). GAP has received no response.

⁴¹⁸ GAP is not aware of media policy reforms at any other federal science agencies. In the wake of the recently publicized USFWS memoranda barring scientists from freely discussing “climate change, polar bears, and ice,” House Committee on Science and Technology Chairman Bart Gordon (D-TN) and Investigations and Oversight Committee Chairman Brad Miller sent letters to the Secretary of Interior and administrators of 11 other federal agencies inquiring about their science media policies. See press release (March 15, 2005) available at <http://sciencedems.house.gov/press/PRArticle.aspx?NewsID=1730> (last visited March 24, 2007).

position formerly held by Mahoney.⁴¹⁹ The Senate Commerce, Science and Transportation Committee had planned to consider her nomination on December 5, 2006. However, several members of the committee intervened in response to concerns about the appropriateness of her nomination. Chairman Ted Stevens (R-AK) subsequently removed Luxton's nomination from the agenda for that Congress.⁴²⁰

Improvements

Despite evident shortcomings, there was a sense among many scientists and public affairs officials contacted in the summer and fall of 2006 that things have generally improved, a fact that is often attributed to the recent pressure brought to bear by outspoken scientists, the media, Congress, and watchdog organizations.⁴²¹ Consider the following statements from the UCS survey:

Recently a Bush appointee to the position of Public Information Officer attempted to muzzle Jim Hansen, Director of GISS. This PIO was sacked and the NASA Administrator made it clear that such political meddling would not be tolerated. This was excellent leadership at the top and set the tone for [the] lower echelons [that] may not otherwise have been this strong. Michael Griffin is a great improvement over his recent precedents [sic].

As of March 2006 there was a marked change in NASA, and I have spoken out freely on climate change, including a NASA-approved press release. I believe scientists at other agencies (e.g. NOAA) still have restrictions.

Major damage has been inflicted upon NOAA and NASA. Fortunately, the "scientists" backlash forced a return to scientific integrity in NOAA and NASA.

Nonetheless, Mahlman is skeptical that:

systematic and lasting improvements have been achieved in NOAA's handling and support of climate research and/or its communication to the public. I don't think that this statement would be easily endorsed and accepted within NOAA today, even though the NOAA research scientists that I talk to now agree that they have earned an encouragingly improved level of scientific freedom to converse with the press, and talk on the phone to whoever they wish. Personally, I admit to still being somewhat wary of the questionable and partisan ethics of the political appointees within NOAA.

⁴¹⁹ See her biography at <http://www.kslaw.com/portal/server.pt?space=KSPublicRedirect&control=KSPublicRedirect&BioId=5497> (last visited on March 24, 2007).

⁴²⁰ Anonymous source, communication with Rick Piltz.

⁴²¹ The issue has remained a hot topic. On December 11, 2006, UCS announced that "a statement by Nobel Laureates and other leading scientists calling for the restoration of scientific integrity to federal policy making has now been signed by 10,600 scientists from all 50 states." Press Release, "10,600 Scientists Condemn Political Interference in Science."

Spotlighting the CCSP

Despite improvements in the flow of information at the agency level, there remain serious, albeit neglected, issues in the communication of science at CCSP, the umbrella body responsible for coordinating the multi-agency federal climate science research agenda. Formerly chaired by Mahoney, CCSP is governed by a committee of principals comprising 13 other senior agency officials and liaisons for the Executive Office of the President, including OSTP, CEQ, and OMB. CCSP governance is further structured into several interagency working groups covering both scientific and operational subject matter. Pursuant to the *CCSP Strategic Plan*, the Communications Interagency Working Group (CIWG) was established in FY2004 to “disseminate the results of CCSP activities credibly and effectively [and] make CCSP science findings and products easily available to a diverse set of audiences.”⁴²² To this end, the *Strategic Plan* required the development of an implementation plan, which has since been adopted and approved to guide CIWG’s activities through FY2006. Under the plan, CIWG was to produce a number of deliverables “on climate change science fundamentals such as “Frequently Asked Questions” and educational fact sheets, a series of information pieces about CCSP and its activities, fact sheets and other outreach materials and activities on quarterly featured topics that focus on cross-agency research efforts, and ancillary outreach material to accompany research products issued by CCSP working groups.”⁴²³

It is worth noting that since 2004, CCSP has cautiously produced and posted on its website only five fact sheets and two research summaries, all ranging from two to four pages in length. It issued eight press releases – three of which were administrative announcements – and held one workshop on November 14-16, 2005. Furthermore, with the exception of three press releases, CCSP has not produced any new material as of January 2006.⁴²⁴ In light of earlier findings in our investigations, one ready explanation for these shortcomings is the process for approval and clearance of CCSP information. The CIWG Implementation Plan and Terms of Reference all require proposed communications and products to be approved by the working group, a 30-member committee that conspicuously includes two representatives of OMB, one from OSTP and one from CEQ, as well as NOAA policy and press officers Jennifer Sprague, Kent Laborde and Scott Smullen.⁴²⁵ The proposal then goes to the CCSP principals, including their representatives from OMB, OSTP, and CEQ.⁴²⁶ This two-level approval process involving numerous “schedule C” appointees must then be repeated for the finished

⁴²² <http://www.usgcrp.gov/usgcrp/ProgramElements/communications.htm> (last visited on March 23, 2007).

⁴²³ *Ibid.* See also Marburger’s letter to Udall (April 19, 2005) *record on file with GAP*.

⁴²⁴ To their credit, CCSP’s February 16, 2007, press release brought attention to CCSP’s “contribut[ion] to the IPCC’s increased confidence attributing much of the temperature increase since the mid-20th century to human activities.” “U.S. Climate Change Science Program Provides Key Contributions To IPCC Fourth Assessment,” Press Release *available at* <http://www.climate-science.gov/Library/pressreleases/pressrelease16feb2007.htm> (last visited on March 24, 2007).

⁴²⁵ Enclosure, Mahoney Letter to Inhofe (November 14, 2005) *available at* <http://www.whitehouse.gov/ceq/foia/ccsp/ceq6.pdf> (last visited on March 24, 2007).

⁴²⁶ *Ibid.*

product, in addition to final clearance by the head of OSTP.⁴²⁷ Further restrictions at CCSP include routing of all media and public contacts to the NOAA PAO or CEQ Chair Connaughton.⁴²⁸

⁴²⁷ Anonymous source, interview with Maassarani (November 20, 2006).

⁴²⁸ Phone call by Maassarani to CCSP Washington, DC office (July 19, 2006).

LEGAL ANALYSIS⁴²⁹**Media Policies and the First Amendment**

The findings of the GAP investigation underscore how critical media policies are to the ability of employees in the federal climate science agencies and programs to communicate sound information to policymakers and the public. Currently, media policies often have the effect of silencing these employees. This highlights the pressing need to articulate a theory of the First Amendment that provides protection for the scientific speech of government employees.

The Supreme Court has recognized that government employees retain First Amendment protections for certain speech both inside and outside the workplace,⁴³⁰ while noting that the First Amendment does not “constitutionalize the employee grievance.”⁴³¹ This is sometimes a difficult balance to strike. Public employees are often in the best position to offer candid and informed views of governmental activities and to expose flawed or corrupt programs. On the other hand, as employers, government agencies may need to exercise some control over their employees for the efficient provision of public services.

The Supreme Court arrived at a balance for these competing aims in the landmark case of *Pickering v. Board of Education*.⁴³² In deciding whether First Amendment protection attaches to a government employee’s speech, a court must first determine whether that speech addresses a matter of public concern. Only speech that is of public concern is afforded First Amendment protection. The court must then inquire whether the employee’s free speech interests, and those of the public in hearing what the employee has to say, are outweighed by legitimate employment-related concerns, such as secrecy, privacy, efficiency, or other genuine countervailing interests.⁴³³

Using the *Pickering* balancing test to assess the constitutionality of media policies, courts have overturned, among others, regulations that prevented officers or

⁴²⁹ Written by Jay Dyckman of the National Coalition Against Censorship with contributions from GAP Legal Director Tom Devine, Legislative Representative Adam Miles, and Maassarani.

⁴³⁰ See *Givhan v. Western Line Consolidated School District*, 439 U.S. 410 (1979).

⁴³¹ *Connick v. Myers*, 461 U.S. 138 (1983).

⁴³² 391 U.S. 563 (1968).

⁴³³ After Congress passed the 1978 Civil Service Reform Act (CSRA), the Supreme Court held in *Bush v. Lucas* (462 U.S. 367 (1983)), “[B]ecause petitioner’s claims arise out of an employment relationship that is governed by comprehensive procedural and substantive provisions giving meaningful remedies against the United States, it would be inappropriate for this Court to supplement that regulatory scheme with a new nonstatutory damages remedy.” This decision limited covered federal employees’ right to seek remedies in retaliation and other employment cases citing government violations of their First Amendment rights. While federal employees covered by the CSRA do not lose First Amendment rights in accepting employment with the government, they are forced to rely on the statutory remedies of the 1989 Whistleblower Protection Act (WPA), which amended the CSRA, when challenging government retaliation for protected speech.

employees from receiving any honorarium in connection with speaking engagements,⁴³⁴ a rule that prohibited employees from receiving compensation for their speaking engagements,⁴³⁵ a regulation requiring that an employee obtain permission from an agency's media affairs office prior to speaking to the media,⁴³⁶ and media affairs regulations that do not contain a definitive timeline for the release of information.⁴³⁷

In *Garcetti v. Ceballos*, however, the Supreme Court clarifies that *Pickering* does not protect complaints made by public employees, in the course of their official duties, about government decisions.⁴³⁸ Briefly, Richard Ceballos was a deputy district attorney in the Los Angeles County District Attorney's Office.⁴³⁹ After a defense attorney contacted Ceballos concerning the validity of a search warrant used to gain access to critical evidence in an upcoming criminal case, Ceballos concluded that the affidavit upon which the warrant had been based contained serious misrepresentations. Consequently, Ceballos alerted his supervisors to the discrepancies and prepared a memo detailing his findings. A meeting was held to determine the validity of Ceballos' conclusions and it was decided that those conclusions were unfounded and that the office would proceed with the contemplated prosecution. Subsequently, Ceballos claimed that he was reassigned from his position in retaliation for speaking out about the deficiencies of the warrant and notifying the defense.

The *Garcetti* decision has unclear implications for federal scientists speaking to the media or public, particularly if this is viewed as a part of their job duties. Scientific speech about climate change under *Pickering* would arguably be treated as a significant matter of public concerns. Yet, in finding that Ceballos did not have a First Amendment cause of action, the Supreme Court avoided the *Pickering* test altogether. The Court never addressed whether Ceballos' speech was a matter of public concern; rather, it shifted the focus to the employee's job description and granted protections only if the

⁴³⁴ *United States v. NTEU*, 513 U.S. 454, 467 (1995). Of significance in *NTEU* is that the court struck down "a wholesale deterrent to a broad category of expression by a massive number of potential speakers," which gave rise to far more serious concerns than a single supervisory decision. *NTEU* suggested that restrictions found in media policy regulations would be scrutinized more strictly than an isolated disciplinary action would be.

⁴³⁵ See *EPA v. Sanjour*, 56 F.3d 85 (1995). The EPA regulation was struck down because the purported government interest – the prevention of unjust enrichment of employees – was found to preclude individuals from speaking about matters of public concern.

⁴³⁶ See *Harmon v. City of New York*, 140 F.3d 111 (1998). The Second Circuit rejected the city's argument that these regulations by the Child Welfare administration were necessary to protect confidential information, finding rather that they operated as an unconstitutional prior restraint on speech: "While the government has special authority to proscribe the speech of its employees, vigilance is necessary to ensure that public employers do not use authority over employees to silence discourse, not because it hampers public functions but simply because superiors disagree with the content of employees' speech."

⁴³⁷ See, e.g., *FW/PBS, Inc. dba Paris Adult Bookstore II v. City of Dallas*, 493 U.S. 215, 223-224 (1990) (without a time frame a regulatory scheme creates an "impermissible risk of suppression of ideas" whenever applied); *Harman v. City of New York*, 140 F.3d at 120, (objecting to a policy which allows the employer to "destroy the immediacy of the comment").

⁴³⁸ 126 S.Ct. 1951 (2006).

⁴³⁹ *Ibid.*

speech did not fall within it.⁴⁴⁰ This doctrine has spread beyond formal government settings, even being used to limit statutory whistleblower rights for private employees.⁴⁴¹ If *Garcetti* is not confined to the type of internal communications at issue in Ceballos, the doctrine may apply to the public communications of federal employees as well.⁴⁴²

There are strong indications, however, that scientific speech about climate change would be treated as a significant matter of public concern under both *Pickering* and *Garcetti*. Notably, the *Garcetti* opinion highlighted the special concerns of scholarly speech:

There is some argument that expression related to academic scholarship or classroom instruction implicated additional constitutional interests that are not fully accounted for by this Court's customary employee-speech jurisprudence. We need not, and for that reason do not, decide whether the analysis we conduct today would apply in the same manner to a case involving speech related to scholarship or teaching.⁴⁴³

This caveat suggests that the protection afforded scientific and scholarly speech by government employees might be analyzed differently under First Amendment principles than the internal speech that routinely takes place inside other kinds of government offices. Indeed, such an approach would be necessary to bring First Amendment analysis into accord with the congressionally-mandated missions of federal science agencies, which uniformly direct such agencies to provide the best possible scientific information to inform the public and policy-makers.

The *Garcetti* decision thus leaves many important questions unanswered, but does not foreclose the possibility that more expansive free speech rights will apply to government scientists given the unique nature of their work and the public's interest in maintaining the integrity of the scientific process, which depends on the full and free exchange of ideas. Certainly, strong policy considerations militate in favor of such a construction.

⁴⁴⁰ *Ibid.* The opinion devoted much attention to Ceballos' duties as a calendar deputy "fulfilling a responsibility to advise his supervisor about how best to proceed with a pending case." This was the determining factor, as the government action then "simply reflects the exercise of employer control over what the employer itself has commissioned or created."

⁴⁴¹ See Bonnie I. Robin-Vergeer, "Surviving *Garcetti* v. Ceballos," and Thad Guyer, "Surviving *Garcetti* v. Ceballos: Arguments to Save First Amendment cases after *Garcetti*," papers presented at the National Employment Lawyers Association seminar: Representing Workers in Whistleblower and Retaliation Cases, (March 16-17, 2007).

⁴⁴² A significant aspect of the *Garcetti* opinion is that the case was remanded to the Ninth Circuit to determine whether any of Ceballos' speech outside of the memo should qualify for First Amendment protection. Notably, Ceballos had also addressed his concerns at a bar meeting, which would appear to place him farther outside the court's "course of employment" criterion.

⁴⁴³ The dissent did not miss the significance of the opinion's potential breadth: "This ostensible domain beyond the pale of the First Amendment is spacious enough to include even the teaching of a public university professor, and I have to hope that today's majority does not mean to imperil First Amendment protection of academic freedom in public colleges and universities, whose teachers necessarily speak and write 'pursuant to official duties.'"

We can now turn to the specific media policy guidelines at NASA and NOAA.⁴⁴⁴ In examining these guidelines, it is helpful to keep in mind the Supreme Court's acknowledgment that the "government may certainly choose to give additional protections to its employees beyond what is mandated by the First Amendment."⁴⁴⁵ Constitutional rights are the bare minimum that employees must be afforded. Although judicial decisions are tempered by the deference appropriately owed to the executive branch, there are strong policy reasons – grounded in the First Amendment – for agencies to expand the reach of employees' free speech rights.

NASA and the First Amendment

Types of Speech Covered by the Policy

NASA's media policy restrictions cover "information in any form provided to news and information media," including press releases, media advisories, news features, and web postings.⁴⁴⁶ The policy does not cover scientific and technical reports, web postings designed for technical or scientific interchange, and technical information presented at professional meetings or in professional journals.⁴⁴⁷ Hence, scientists are generally allowed to share information with their colleagues without going through the public affairs office's political appointees.

What type of communication the media policy covers and does not cover is not clearly defined. For example, if a scientist were to post on the web information about his work, would that fall under the "web postings" definition of "public information," in which case it must adhere to the policy? Or would it constitute "web postings designed for technical or scientific interchange" and thus not fall within the policy's purview? NASA has included a "Frequently Asked Questions" (FAQ) pamphlet to accompany the policy that attempts to clarify this situation:⁴⁴⁸

The same policy applies to the Web as to standard release of public information. All public information posted on a NASA website is subject to this policy. However, scientific and technical reports, scientific data and technical information for professional interchange and peer-reviewed research are not included.

⁴⁴⁴ This section will focus on the media policies at NASA and NOAA, though – as documented elsewhere in this report – problems persist at other agencies as well. It is also significant that, whereas both NASA and NOAA have issued written policies, restrictions on communication continue to be transmitted through verbal orders and directives that fall outside of these policies.

⁴⁴⁵ See *Waters v. Churchill*, 511 U.S. 661, 674 (1994).

⁴⁴⁶ "Scope," NASA 2006 media policy at pg. 1.

⁴⁴⁷ *Ibid.*

⁴⁴⁸ NASA Public Affairs Policy FAQ at pg. 2 available at http://www.nasa.gov/audience/formedia/features/communication_policy.html (last visited on March 24, 2007).

Despite NASA's attempt to parse the categories of what is and is not covered by the media policy, several questions remain. For example, how broad is the category of scientific and technical reports? This is a significant question left open because scientific and technical reports or scientific data posted to a non-NASA website would appear to fall outside the policy. Also, only public information intended for "nationwide release" must be reviewed and cleared by NASA Headquarters. Public information that is "institutional in nature, of local interest or deemed by NASA headquarters not to be a Headquarters release" may be released without review and clearance.⁴⁴⁹ The first two categories are incredibly broad and give little guidance as to what would be covered. The last criterion is paradoxical. If the public information at issue is deemed to be a non-headquarters release, then it must have first been reviewed in order to make that determination.

Notice and Timing

NASA's media policy contains a notification element that states:

NASA employees may speak to the media and the public about their work. When doing so, employees shall notify their immediate supervisor and coordinate with their public affairs office in advance of interviews whenever possible, or immediately thereafter, and are encouraged, to the maximum extent practicable, to have a public affairs officer present during interviews."⁴⁵⁰

The notice requirement by itself does not constitute an objectionable prior restraint.⁴⁵¹ Although the notice requirement appears to allow employees to respond to impromptu or breaking news interview requests without having to send formal notice first, the FAQ obfuscates the notice requirement by stating that though "NASA employees are not required to notify public affairs to express their opinions," they are asked to notify if they "participate in media activities related to their professional responsibilities."⁴⁵²

Although the media policy states that public information will be released "promptly, factually, and completely," there is no timeline set forth.⁴⁵³ Restrictive policies that lack a timeline have been struck down by other courts.⁴⁵⁴ Hence, it is

⁴⁴⁹ "Public information coordination and concurrence," Section (d), NASA 2006 media policy at pg. 4.

⁴⁵⁰ The policy also calls for coordination among the public affairs bureaucracy that also requires a similar notification element. This analysis, however, will concentrate on notification elements for the employee scientists.

⁴⁵¹ *Latino Officers Association v. Safir*, 170 F.3d 167, 172 (2d Cir. 1999) (upholding a policy requiring notice and reporting, as plaintiffs failed to show how it threatens unpopular speech).

⁴⁵² NASA Public Affairs Policy FAQ at pg. 4 *available at* http://www.nasa.gov/audience/formedia/features/communication_policy.html (last visited on March 24, 2007).

⁴⁵³ "Principles," Section (b), NASA 2006 media policy at pg. 1.

⁴⁵⁴ *See, e.g., FW/PBS, Inc. dba Paris Adult Bookstore II v. City of Dallas*, 493 U.S. 215, 223-224 (1990) (without a time frame a regulatory scheme creates an "impermissible risk of suppression of ideas" whenever applied); *Harman v. City of New York*, 140 F.3d at 120, (objecting to a policy which allows the employer to "destroy the immediacy of the comment"). *But see Weaver v. United States Information*

possible that this part of the policy would not survive scrutiny. The policy also includes a dispute resolution process, but it similarly excludes a timeline, thereby raising some of the same concerns as above. A written explanation for the PAO decision, however, will be provided if requested.

Content Restriction

Although the requirement to provide notice has been upheld, courts are far less willing to allow a policy that requires content review and approval prior to speaking.⁴⁵⁵ The NASA media policy requires “review and clearance by appropriate officials” for “all NASA employees involved in preparing and issuing” public information.⁴⁵⁶ The policy also allows the PAO to “edit any information to ensure that public information products are well written and appropriate for the intended audience. However, such editing shall not change scientific or technical data, or the meaning of programmatic content.”⁴⁵⁷ Thus public information appears to be safe from content editing during review and approval, but not necessarily from delay or rejection on the basis of its content.

Furthermore, the policy designates an entire content area as off-limits: “Only a designated NASA spokesperson may speak to the media on budget, policy or programmatic issues.”⁴⁵⁸ Employees are often in the best position to offer opinions on these matters of public concern, especially since “programmatic issues” can be interpreted broadly enough to encompass any non-administrative matters.⁴⁵⁹ These provisions also appear to conflict with another section of the FAQ:⁴⁶⁰

Q: When issues of official NASA policy or budget are discussed, or other matters beyond the scope of the interviewee’s duties, may the person being interviewed provide their opinions even though they may not be the official agency spokesperson on the matter?

Agency, 87 F.3d 1429 (DC Cir. 1996) (upholding pre-publication review requirement without a timeline provision because it was not sufficiently alleged that the review period would be “lengthy.”)

⁴⁵⁵ *Latino Officers Association v. Safir*, 1997 U.S. Dist. LEXIS 10983 (S.D.N.Y. 1997). (temporary injunction against policy requiring reporting, supervision, notice, and approval), vacated, 170 F.3d 167 (2d Cir. 1999) (upholding policy pared down to notice and reporting).

⁴⁵⁶ “Public information coordination and concurrence,” Sections (a) and (b), NASA 2006 media policy at pg. 3-4.

⁴⁵⁷ “Responsibilities,” Sections (c), NASA 2006 media policy at pg. 2. The FAQ appears to bolster this by claiming that the PAO can “never” edit or alter scientific information. NASA Public Affairs Policy FAQ at pg. 3.

⁴⁵⁸ “Interviews,” Sections (a), NASA 2006 media policy at pg. 4.

⁴⁵⁹ See, e.g., *Waters v. Churchill*, 511 U.S. at 666, 674 (protecting an employee’s speech commenting on policy as she was in the best position to identify problems).

⁴⁶⁰ NASA Public Affairs Policy FAQ at pg. 3 available at http://www.nasa.gov/audience/formedia/features/communication_policy.html (last visited on March 24, 2007).

A: Yes. However, they must clearly state that this is their personal opinion and does not reflect the views of the agency....[and make sure] government resources shall not be used toward that activity.⁴⁶¹

The FAQ is difficult to reconcile with the policy. Such contradictions as between the overall "personal views" exception and its various loopholes may only be compounded by the pending release of implementation guidelines.⁴⁶² It is GAP's concern that this uncertainty leaves the policy open to varying interpretations depending on the prevailing political climate.

NOAA and the First Amendment

NOAA is contemplating a revision of its current media policy, one that suffers from vague directives and ambiguous language. The policy includes a recognition that:⁴⁶³

Well-planned media relations programs help earn public support of missions, functions, and services performed by NOAA. A principal goal of public, constituent, and intergovernmental affairs activities is to increase understanding of NOAA and its mission by increasing public exposure to, and understanding of, NOAA's programs.

This stated purpose is significant because the application of *Pickering* requires the court to consider the congruence between the stated purpose of a policy and the interests in a speech restriction asserted at trial.⁴⁶⁴ Hence, the state actor must demonstrate that the policy rectifies real harms in a direct and material way.⁴⁶⁵

Types of Speech Covered by the Policy

The Office of Public, Constituent, and Intergovernmental Affairs (OPCIA) is responsible for coordinating and approving media communications involving NOAA, including advisories, press releases, interviews, and other related media contacts. Mandating approval as a pre-clearance requirement carries a heavy presumption against its constitutional validity.⁴⁶⁶ The types of "media communications" enumerated by the policy are quite expansive. This can weigh against finding the policy constitutional, as

⁴⁶¹ Documents obtained by FOIA indicate that interviews or other activities in an unofficial capacity exceeding 5-10 minutes per day are no longer considered "paid free time." Email From: Erica Rule, To: Judy Gray, Michael Black, et al.; Date: October 20, 2005 *on file with Dyckman*. Without further judicial guidance, it is our contention that government employees should have at least 20 minutes of "paid free time," the equivalent of two short breaks.

⁴⁶² NASA Public Affairs Policy FAQ at pg. 5 available at http://www.nasa.gov/audience/formedia/features/communication_policy.html (last visited on March 24, 2007).

⁴⁶³ "Stated purpose," NOAA 2004 media policy, NAO-219-6, at pg. 1.

⁴⁶⁴ *Sanjour v. EPA*, 56 F.3d 85, 96 (D.C. Cir. 1995).

⁴⁶⁵ *Turner Broadcasting System, Inc. v. FCC*, 512 U.S. 622, 664 (1994).

⁴⁶⁶ *Southeastern Promotions Ltd. v. Conrad*, 420 U.S. 546, 559 (1975).

overly broad policies create a chilling effect on unpopular or dissenting speech by their "very existence."⁴⁶⁷

OPCIA's responsibilities include media communications concerning the following:⁴⁶⁸ (1) announcement of the release of official NOAA data, research, positions, and statements;⁴⁶⁹ (2) announcement of activities of NOAA or Department leadership which pertain to NOAA policy, science, research, missions, projects, and partnerships; (3) announcement of the release of contracts, grants, and grants-in-aid of \$500,000 or more, or others of any amount which may have significant public interest or other public value or significance; (4) activities that may have policy-making implications; and (5) announcing official scientific and technical papers authored or co-authored by NOAA employees that result or may result in media interest.

In *NTEU*, the Supreme Court faulted a government policy preventing employees from giving speech unrelated to their jobs for being over-inclusive.⁴⁷⁰ Hence, terms such as "media interest" present a problem because they are especially vague.⁴⁷¹ NOAA public affairs professionals are responsible for ensuring that reporters get timely and accurate answers to pertinent questions.⁴⁷² Similar to the lack of objective standards for approval, the lack of a concrete time limit for approval weighs against the employer's interest, as it allows the employer to destroy the newsworthiness of the speech.⁴⁷³

Notice

Notice must be given for virtually all forms of communication, including proposed news conferences, proposed contacts with major news media, and official and non-official scientific and technical papers authored or co-authored by NOAA employees that may result in media interest.⁴⁷⁴ Furthermore, all employees must notify the PAO before responding to news media inquiries whenever the inquiries are of national news interest, concern regulatory issues, concern controversial issues, pertain to science having policy implications, or involve a crisis situation.⁴⁷⁵

⁴⁶⁷ *Kessler v. City of Providence*, 167 F.Supp.2d 482, 490 (D. R.I. 2001), citing *International Association of Firefighters Local 3233 v. Frenchtown Charter Township*, 246 F.Supp.2d 734, 742 (E.D. Mich. 2003).

⁴⁶⁸ "Responsibilities," Section 2.02 NOAA 2004 media policy, NAO-219-6.

⁴⁶⁹ The District Court of Connecticut validated a police department regulation containing pre-clearance requirements for "formal releases" of information. See *Shelton Police Union v. Voccola*, 125 F.Supp.2d 604, 624 (D. Conn. 2001). The department's interest in controlling statements attributed to it affects the effective functioning of the department in a direct and material way.

⁴⁷⁰ *United States v. National Treasury Employees Union*, 513 U.S. 454, 477 (1995).

⁴⁷¹ See *Harman v. City of New York*, 140 F.3d 111, 120 (2d Cir. 1998) (weighing a lack of objective standard against the government's interest).

⁴⁷² "Responsibilities," Section 2.04 NOAA 2004 media policy, NAO-219-6.

⁴⁷³ See *Harman*. The undefined timeline, however, is mitigated by the superseding DOC media policy, which proscribes detailed timing requirements for media communications. See DAO 219-2 § 2.03, Release of News, Clearance of Publications, and Media Coverage ("News releases are to be submitted two working days prior to the proposed release date to permit adequate time for processing.")

⁴⁷⁴ "Media and public interactions requiring prior notification," Section 3.01 NOAA 2004 media policy, NAO-219-6.

⁴⁷⁵ *Ibid.* Section 3.02.

Generally, notice without content approval requirement is deemed constitutional.⁴⁷⁶ However, any proposed participation or inclusion in media presentations (e.g., audio or visual tapes, films, television programs, and exhibits) by individuals resulting from their duties as NOAA employees must be cleared by OPCA beforehand.⁴⁷⁷ If a “media presentation” constitutes an interview with a news station, then an approval requirement is arguably unconstitutional.⁴⁷⁸

Content Restriction

NOAA’s media policy has a section entitled “Guidance on Media Queries.”⁴⁷⁹ The guide appears to cover every conceivable form of communication and to direct its employees away from speaking about matters of public concern or offering their opinions on such matters. This guidance includes the following suggestions:

- a. Discussions should focus on science and fact, not speculation.
- b. Limit discussions to matters for which you are responsible and of which you have direct knowledge.
- c. Whether in person, on camera, or over the phone, when speaking to a reporter you represent and speak for the entire agency.
- d. When speaking to reporters, you are speaking on the record. Off-the-record and background interviews almost always result in a story.
- e. You are not bound to talk with reporters. Should you have any questions, concerns, or doubts, call your servicing PAO.
- f. Following an interview, call your servicing PAO to describe the interview and the expected story. Do this promptly. The situation may require the PAO to contact the reporter in order to provide additional information and context.

In an October 3, 2006, memo to all NOAA employees, NOAA Administrator Conrad Lautenbacher made the following statement:⁴⁸⁰

Our media standards also reflect an open policy. We encourage our public affairs staff to keep abreast of media interests. I encourage our scientists to speak freely and openly. Dozens of you every day are talking to the media and providing the results of peer reviewed science across a wide variety of NOAA topics. We ask only that you specify when you are communicating

⁴⁷⁶ *Latino Officers Association v. Safir*, 170 F.3d 167, 172-73 (2d Cir. 1999) (upholding notification).

⁴⁷⁷ “Media and public interactions requiring prior notification,” Section 3.03 NOAA 2004 media policy, NAO-219-6.

⁴⁷⁸ *See Southeastern Promotions Ltd. v. Conrad*, 420 U.S. 546, 559 (1975).

⁴⁷⁹ “Guidance on media queries,” Section 4.02 NOAA 2004 media policy, NAO-219-6.

⁴⁸⁰ Available at http://science.house.gov/Media/File/ForReleases/04oct06NOAA/noaa_lautenbacher_mailtext_03oct06.pdf (last visited on March 24, 2007).

personal views and when you are characterizing your work as part of your specific contribution to NOAA's mission.

Lautenbacher's views toward openness at NOAA are not reflected in the NOAA media policy. NOAA's written guidance to "limit discussions to matters for which you are responsible and of which you have direct knowledge" contradicts Lautenbacher's declaration and contravenes the well-stated societal interest in having public employees comment on any matters of public concern. As a matter of policy, NOAA has yet to respect its employees' right to a "personal views" exception.

Media Policies and Statutory Protections

In 1989, Congress enacted the Whistleblower Protection Act (WPA), an amendment to the Civil Service Reform Act (CSRA), to protect federal employees who attempt to alert the public to illegal or dangerous actions.⁴⁸¹ The WPA forbids the federal government from taking or threatening adverse action against a federal employee because the employee disclosed information that he or she reasonably believed showed a violation of law, gross mismanagement, gross waste of funds, abuse of authority, or substantial and specific danger to public health or safety. To state a claim, a federal employee must show a protected disclosure, knowledge of the disclosure by the retaliating official, and concrete causation of the retaliation by the protected whistleblowing activity. The WPA permits employees to disclose otherwise-qualified information without restriction, unless it is classified or its release is specifically prohibited by statute.⁴⁸² None of the policies GAP examined that regulate a federal employee's communications contain an explicit exemption for this statutorily-protected form of speech.

Policies restricting disclosures of information classified as "Sensitive but Unclassified" (SBU) – such as found in the reformed NASA media policy, which requires pre-approval for all SBU disclosures⁴⁸³ – also violate the WPA and other free speech rights. SBU is an uncontrolled hybrid secrecy category for information that can be, and has been, imposed after the fact, without prior notice, and for any "official use."⁴⁸⁴ SBU does not purport to meet the legal standards for classification and is so broad and vague that it could be interpreted to sweep in virtually anything.

The NASA policy also contravenes the WPA right to engage in anonymous communications by requiring federal employees to work with NASA officials "prior to releasing information" or "engaging in any activities or events ... that have the potential

⁴⁸¹ See 5 U.S.C. §§ 2302(b)(8), (b)(9).

⁴⁸² As ruled in *Garceiti*, the WPA does not protect employees whose disclosures were made "during the course of [their] job duties." *Willis v. Department of Agriculture*, 141 F.3d 1139 (Fed. Cir. 1998). The U.S. Court of Appeals for the Federal Circuit removed WPA coverage for job-related whistleblowing disclosures. As discussed later in this section, pending legislation H.R. 985 would overturn the Federal Circuit's decision in *Willis*.

⁴⁸³ "Preventing unauthorized release of sensitive but unclassified (SBU) information," NASA 2006 media policy at pg. 6-7.

⁴⁸⁴ See, e.g., *McClean v. Department of Homeland Security* (pending Ninth Cir.).

to generate significant media or public interest inquiry.”⁴⁸⁵ Furthermore, the NASA policy requires “review and clearance” by appropriate officials for “all NASA employees” involved in “preparing and issuing” public information.⁴⁸⁶ It grants NASA the power to control the timing of all disclosures.⁴⁸⁷ With no distinction made for protected whistleblower speech, there is no legal basis to conclude that these provisions can lawfully coexist with the WPA.

On March 14, 2007, the U.S. House of Representatives passed an amendment to the WPA, H.R. 985, which, among other things, includes a clarification regarding disclosure of actions that threaten the integrity of federal science.⁴⁸⁸ As amended, the WPA would now define “abuse of authority” to include:⁴⁸⁹

- (1) any action that compromises the validity or accuracy of federally funded research or analysis;
- (2) the dissemination of false or misleading scientific, medical, or technical information; and
- (3) any action that restricts or prevents an employee or any person performing federally-funded research or analysis from publishing in peer-reviewed journals or other scientific publications or making oral presentations at professional society meetings or other meetings of their peers.

These whistleblower protections thus protect against retaliation for exposing the distortion or restriction of scientific communications and research.⁴⁹⁰ H.R. 985 covers civil service employees and narrowly-defined government contractors, but not all scientists at federally-funded facilities.⁴⁹¹

Despite these statutory safeguards for whistleblower-type speech, the WPA does not protect from the increasingly restrictive policies and practices imposed upon federal employees when merely communicating their scientific research to the media, public, or Congress. This form of non-whistleblower speech does not satisfy the above-listed elements required to pursue a claim under the WPA. In other words, whistleblowers may currently be protected for disclosing evidence that their science has been suppressed, but would not necessarily be protected under the WPA for disclosing the science itself.

⁴⁸⁵ “Responsibilities,” sections (f) and (g), policy at 3; see also “Interviews,” sections (c) and (f), NASA 2006 media policy at pg. 5.

⁴⁸⁶ “Public information coordination and concurrence,” Sections (a) and (b), NASA 2006 media policy at pg. 3-4.

⁴⁸⁷ “Responsibilities,” section (i), NASA 2006 media policy at pg. 3.

⁴⁸⁸ Whistleblower Protection Enhancement Act of 2007.

⁴⁸⁹ H.R. 985 §13(a) “Clarification of Whistleblower Rights Relating to Scientific and Other Research.”

⁴⁹⁰ Note that a corresponding provision is not currently included in companion Senate legislation, S. 274.

⁴⁹¹ H.R. 985 §11(a) limits protection to employees of traditional contractors, as defined by 41 U.S.C. 265(a). This would exclude those supported by research grants or other forms of federal funding.

A corollary to the WPA is the Lloyd-Lafollette Act, which recognizes the right of employees to freely communicate with Congress.⁴⁹² However, on its face the law offers no legal remedies in the event the right is abridged.

Another relevant legal boundary is the Anti-Gag Statute, which bans federal spending to implement or enforce any “nondisclosure policy, form, or agreement” unless it includes a congressionally drafted addendum specifying that statutory whistleblower protections supersede any conflicting language in the agency’s restriction.⁴⁹³ The statute protects employees from being forced to relinquish their whistleblower rights. Congress has unanimously passed anti-gag provisions as riders to appropriations legislation since FY1988. H.R. 985 would make this provision permanent and render the failure to include the addendum a prohibited personnel action.⁴⁹⁴ None of the media policies discussed in this report – all of which explicitly restrict federal employees’ communications contrary to the WPA – contain the required addendum.⁴⁹⁵

In addition to statutory proscriptions, affirmatively facilitating media communications through networking and preparing, assisting, and encouraging federal employees is often necessary to fulfill an agency’s legislative mandate, public expectations, or its own internal goals of educating the public. For example, the NOAA Climate Program states as its second objective the outcome of creating “a climate-literate public effectively incorporating NOAA’s climate products into their plans and decisions.”⁴⁹⁶ Similarly, NASA’s 2006 Policy on the Release of Information to the News and Information Media stated that “consistent with NASA statutory responsibility, NASA will ‘provide for the widest practicable and appropriate dissemination of information concerning its activities and the results thereof.’” Effective outreach can also raise an agency’s public recognition, improve its scientific reputation, and increase its federal funding.

⁴⁹² See 5 U.S.C. § 7211 (1978). “The right of employees, individually or collectively, to petition Congress or a Member of Congress, or to furnish information to either House of Congress, or to a committee or Member thereof, may not be interfered with or denied.”

⁴⁹³ SEC. 820 of the Transportation, Treasury, Housing and Urban Development, the Judiciary, and Independent Agencies Appropriations Act of 2006, which became PL 109-115 on November 30, 2005, as extended through September 30, 2007, by H.J. RES 20, the continuing appropriations resolution for the FY2007, which became PL 110-5 on February 15, 2007. The language of the addendum may be found in GAP’s model media policy below.

⁴⁹⁴ H.R. 985 § 5 “Nondisclosure policies, forms and agreements.”

⁴⁹⁵ Note that in response to GAP’s FOIA requesting evidence of compliance with the statute, NOAA’s FOIA officers expressed first that no one had heard of it and then that they falsely believed it to be repealed.

⁴⁹⁶ OAR Q&As (undated). GAP August 9, 2006, part 3 NOAA FOIA response undated pg. 26-75.

RECOMMENDATIONS

GAP recommends that the executive branch and all federal agencies supporting climate change research:

- Eliminate mandatory pre-approval for media contacts, selective routing of media requests, drafting of anticipated questions and answers by scientists prior to interviews, and monitoring of media communications.

It may be reasonable to require notification of the Public Affairs Office (PAO) and a post-interview recap, as many local PAOs have done to both the scientists' and reporters' satisfaction. Furthermore, the PAO should take an active role in coordinating and facilitating media interactions, especially connecting journalists with the appropriate scientists and supplying corrections and background information. Nonetheless, the ultimate decision about the content of and parties to any particular media communication rests with the reporter and the scientist he or she asks to interview.

- Reaffirm the "personal views" exception for all media, congressional, public, and professional communications.

Scientists must be apprised of their constitutional right to speak about any subject, including policy-related matters and those outside their area of expertise, so long as:

1. scientists make it clear that they do so in their private capacity, not as a representative of their agency. Identifying the scientist with his or her agency, position, and area of expertise is permissible so long as the communication includes the "private capacity" disclaimer; and
 2. scientists' personal communications do not unreasonably take from agency time and resources. Personal use of telephone or email should be allowed during employees' "paid free time." Longer interviews may need to be conducted during authorized breaks or after work. Insofar as an agency facility is usually open to the public, reporters should be able to conduct interviews with scientists on the premises.
- Comply with the mandatory requirements of the Anti-Gag Statute to notify employees of their whistleblower and related rights by incorporating the statutorily-prescribed addendum into the text of any restrictive communication policy or directive.
 - Comply with the Whistleblower Protection Act (WPA) by including the necessary exceptions.

The Whistleblower Protection Act protects any unclassified disclosures, or those

not specifically prohibited by statute, that a federal employee reasonably believes to present evidence of illegality, gross waste, gross mismanagement, abuse of power, or substantial and specific danger to public health or safety. Communication policies should include this exception to any restrictions they imposes.

- Eliminate communication restrictions based on the “Sensitive but Unclassified” (SBU) classification because the unsettled legal definition of SBU can cover virtually any form of communication and thereby implicates constitutional and statutory free speech concerns. Correspondingly, regulations governing the definition of “Sensitive but Unclassified” and related categories must be tightened so that employees know what type of information is properly marked SBU.
- Consistently emphasize the importance of unobstructed science in mission statements, communication policies, and/or administrative directives.
- Guarantee the timely and pro-active issue of press releases.

Any scientist, whether the lead author or co-author of a published report, study, or article, must be given the necessary approval and assistance to issue a press release calling attention to the work within a reasonable time and concurrent with the publication date – even if a release has already been or is scheduled to be issued by another institution.

- Leave content editing to the scientists for scientific publications, congressional written testimony and reports, web postings and presentation material, and press releases.

Although non-scientists and agency management may be actively involved in the review and preparation of scientific products, they do not have the authority to alter the substance of written scientific information without the scientists’ express consent. The qualified scientists actively involved in the research or synthesis of research are ultimately responsible for its content. Co-authors, peer review, ethics, and personal reputation are the proper check.

- Reaffirm a scientist’s “right of last review” for all media, congressional, public, and professional communications.

Federal employees have the right to approve the final version of any proposed federal publication that significantly relies on their scientific research, identifies them as a lead author or contributor, or purports to represent their scientific opinion. This includes, but is not limited to, reports, web postings, and press releases. In the case of multi-author publications, procedures should be set up to allow co-authors to have a meaningful right of review and comment. Where an agency adopts an agency-wide position on a scientific issue, scientists must be allowed to register their disagreement publicly and without adverse consequence

to themselves. Finally, federal employees should be permitted reasonable access to all drafts and edits of their publications that may be produced throughout the review process.

- Solicit the input of scientists and other stakeholders in the development of the content of substantial congressional and public reports and the procedures that govern their production.
- Continue to ensure that federal employees are not restricted either from publishing their research in peer-reviewed journals and other scientific publications or from making oral presentations about their research at professional conferences or other meetings of their peers.
- Establish effective transparency and accountability procedures.

In order to make the above two recommendations meaningful:

1. the editing and review process must clearly identify all participants and text changes at each stage of review. Participants must be able to address any concerns or questions about changes with the party that made them;
 2. an internal disclosure system must be established that ensures confidential reporting and independent resolution of inappropriate alterations, conduct, or conflicts of interest in the review process in particular; and
 3. more generally, the government and its agencies must afford federal scientists adequate whistleblower safeguards, including the impartial investigation and fair resolution of complaints, due process rights, confidentiality of disclosures, protections from retaliation, and adequate corrective relief.
- Adequately inform and clarify scientists' rights and responsibilities.

Every public affairs office needs to evaluate its existing policies and to develop (or reaffirm) a set of simple and unambiguous policies in light of these recommendations and with the input of its own scientists. These policies should clearly incorporate the scientists' rights, as well as responsibilities, and be broadly disseminated to both scientists and management through annual reports, Internet sites, employment contracts, workplace posters, employee handbooks, and special trainings. Although agency- or department-wide policies may articulate an overarching set of principles and basic rights and responsibilities, it is suggested that implementation guidelines be afforded some measure of adaptability to the particular needs of agency subdivisions. In any case, communication policies should be uniformly applied and their content readily available to all employees and to the general public.

- Investigate and correct or redress the inappropriate policies, practices, and incidents set forth in this report and elsewhere.

Determine whether and why the reported problems have occurred. Where confirmed to be true, provide:

1. adequate relief, including but not limited to, reinstatement, plus public and/or private acknowledgement, to those who may have been harmed;
 2. adequate discipline of those found responsible, including but not limited to firing or demotion to a position of less authority; and
 3. necessary reform to correct the institutional conditions, policies, and activities that prompted the problem.
- Encourage the media to recognize and place primary emphasis on reporting credible peer-reviewed information from the scientific community.
 - Improve public affairs' affirmative role of translating science for public consumption by:⁴⁹⁷
 1. mandating that PAOs aggressively pursue the dissemination and accessibility of their scientists' work to the public, media, and Congress;
 2. regularly training scientists on effective communication techniques; and
 3. hiring more local public affairs officers to work directly with the scientists.
 - Develop a transparent communication policy at CCSP that meets the recommendations for media policy reform set out above and that streamlines the approval process for CCSP products and communications.⁴⁹⁸
 - Expedite the timely filling of the long-vacant position of CCSP Director with a scientifically-competent candidate, as well as of vacancies in science policy positions in the Office of Science and Technology Policy and in CCSP principal-representative-level science management positions in participating agencies.
 - End the suppression of meaningful and appropriate references to, as well as the use of, the National Assessment of the Potential Consequences of Climate Variability and Change in the communication of climate change research and

⁴⁹⁷ A good reference in this regard is Moser, S.C. and L. Dilling (eds.) *Creating a Climate for Change: Communicating Climate Change and Facilitating Social Change*, Cambridge University Press (February 2007).

⁴⁹⁸ This process should occur in an aggressive timeframe significantly shorter than that required for the development of the new NOAA media policy.

assessment, including in CCSP reports to Congress, in research and in assessment planning documents, and on websites.

- Ensure CCSP compliance with the Global Change Research Act by producing in the statutorily-required timeframes an integrated, scientifically-based assessment of climate change, including an analysis of current and projected trends and a focus on the impacts of climate change on society and the environment.

Further, GAP urges Congress to:

- Enact legislation that protects federal free speech rights and extends whistleblower protections to all performing federally-funded scientific, professional, or technical research.
- Establish a more effective science-policy relationship.

In order to ensure that federal climate science can best develop and communicate an objective understanding of an important contemporary issue to the public and policymakers, there must be a constructive interface between politics and science. This can be promoted by:

1. reaffirming the importance of openness in science for effective policymaking;
2. training policymakers and regulators to base their decisions on credible, peer-reviewed scientific information from the mainstream scientific community;
3. addressing the influence of industry and industry-backed groups on government research and policy-making processes;
4. placing reasonable limits on agency and personnel authority with the aim of ensuring the scientific integrity of the final product:
 - a. agencies, departments, and executive offices without the institutional expertise should only promote, not interfere with, the conduct or communication of scientific research that has been delegated by the legislative or executive branch; and
 - b. political appointees or persons with conflicts of interest should not be granted final clearance and review of scientific information, and they should be held to transparent procedures in the overall review process.
5. restructuring the science divisions to consolidate and harmonize cross-cutting research and/or separate research elements from regulatory and policy-driven bodies; and

6. mandating a regular government-wide review to evaluate the integrity of federal scientific research and scientific communication.
- Strengthen essential congressional oversight functions on issues of scientific integrity.

APPENDIX

Appendix A: About the Authors

The Government Accountability Project (GAP) is the nation's leading whistleblower protection organization. GAP was founded in 1977, in the wake of the Pentagon Papers scandal, as a project of the Institute for Policy Studies. It has been a lifeboat for more than 3,000 citizen activists providing a range of services including legal information, referrals, counseling, advocacy, litigation, legislative affairs, and media advice. GAP has also been a driving force in many legislative advances in whistleblower protection, including the Sarbanes-Oxley Act of 2002 and the Whistleblower Protection Act of 1989.

GAP has developed in-house expertise in several areas such as promoting corporate accountability, strengthening whistleblower rights and protections, ensuring safe and cost-effective cleanup at nuclear weapons facilities, increasing food and drug safety, enforcing environmental protection laws, seeking enhanced protection for whistleblowers internationally, and curtailing national security abuses. To assist whistleblowers, GAP attorneys and organizers seek to galvanize an effective public response to the alleged wrongdoing and present the whistleblower's revelations to appropriate government agencies, congressional committees, and others on Capitol Hill to investigate and rectify the problems.

GAP's focus on scientific integrity in federal climate science began with the representation of two whistleblowers from government science programs: Dr. James Hansen from NASA and Rick Piltz of the CCSP. Tarek Maassarani served as staff attorney and lead investigator for GAP's new climate science integrity program. He holds a master's degree in international affairs from Columbia University's School for International and Public Affairs and a law degree from the Georgetown University Law Center. He also has a bachelors of science in Environmental Studies and bachelors of arts in Cultural Anthropology from the University of California, Santa Barbara. Tarek Maassarani is currently a Covington and Burling Westwood Fellow at the Neighborhood Legal Services Program in Washington, DC.

The National Coalition Against Censorship (NCAC), founded in 1974, is an alliance of 50 national non-profit organizations, including literary, artistic, religious, educational, professional, labor, and civil liberties groups. United by a conviction that freedom of thought, inquiry, and expression must be defended, NCAC works to educate organization members and the public at large about the dangers of censorship and how to oppose them. At NCAC, Jay Dyckman directs The Knowledge Project, a program that examines the clash between First Amendment principles of free expression and government suppression or distortion of scientific information. He is a graduate of Columbia Law School, where he was an editor of the Columbia Law Review. Upon graduation, he clerked for a federal judge and then spent five years as a litigation associate for two New York law firms.

Appendix B: About this Report and the Investigation

The Government Accountability Project (GAP) investigation into the integrity of federal climate science commenced in February 2006. It was prompted by the concerns of two GAP clients, Rick Piltz and James Hansen, regarding political interference with federal climate science-related employees. A year later, a limited selection of GAP's findings was incorporated into the joint Union of Concerned Scientist-GAP report, *Atmosphere of Pressure: Political Interference in Federal Climate Science*, published in February 2007. The present report offers the comprehensive findings and synthesis of the GAP investigation.

The GAP investigation focused primarily on the effects of restrictive federal government policies and practices, especially those applied to control communications from particular employees on "sensitive" aspects of climate science. The investigation also addressed government efforts to control the communication of scientific climate-related information to Congress, the scientific community, and the public. GAP did not investigate issues of scientific integrity in other fields of research, budgetary impacts on climate science, or political interference at the hands of state and local governments, industry, or non-governmental organizations.⁴⁹⁹

GAP conducted over 40 interviews with climate scientists, communications officers, agency and program officials, and journalists.⁵⁰⁰ These sources – both named and confidential – represent inside perspectives from the National Oceanic and Atmospheric Administration (NOAA), National Aeronautics and Space Administration (NASA), Climate Change Science Program, Environmental Protection Agency, United States Geological Survey, and National Center for Atmospheric Research (NCAR), as well as local, national, and international media. Nearly half of these interviews were conducted in person during field visits to research or administrative facilities in Boulder, Colorado (NCAR, NOAA's Global Monitoring Division); Princeton, New Jersey (NOAA's Geophysical Fluid Dynamics Laboratory); New York, New York (NASA's Goddard Institute for Space Studies); and Silver Spring, Maryland (NOAA's Office of Oceanic and Atmospheric Research). The remaining interviews were conducted by telephone or email. Interviewees were identified through personal referrals, in the media, or by agency directories. Nearly half of responsive interviewees raised confidentiality concerns. About one quarter of the scientists and public affairs staff solicited by GAP turned down our requests for information, a few of them expressing fears to speak even anonymously on the issue. More than a dozen agency and program officials, the majority of those approached, either turned down or did not respond to requests for interviews.

⁴⁹⁹ UCS has published a number of investigations and/or surveys on these topics. See http://www.ucsusa.org/scientific_integrity/.

⁵⁰⁰ We use the term "scientist" loosely to encompass Ph.D. and Master's degree holders, working and retired, as well as research and lab assistants engaged in the scientific process. Furthermore, our investigations did not focus solely on interference with scientists, but on any federal employees working for the climate science agencies and programs.

In addition to interviews, GAP reviewed thousands of pages of documentation obtained from Freedom of Information Act (FOIA) disclosures (discussed below), as well as public and internal agency sources. GAP reviewed the responses to its own FOIA requests as well as disclosures obtained by Greenpeace, Paul Thacker, and congressional committees. GAP also reviewed more than 100 published news articles and more than three dozen congressional documents including reports, testimonies, and questions for the record.

Appendix C: A Postscript on FOIA Irregularities

The Freedom of Information Act, signed into law by President Lyndon B. Johnson on July 4, 1966, permits private individuals and groups the full or partial disclosure of prior unreleased records held by the executive-branch agencies, effectively transforming a “need to know” to a “right to know” for government information.⁵⁰¹ The Act defines what records are subject to disclosure, lays out the requisite disclosure procedures, and affords nine exemptions to the statute, including national security, personal privacy, trade secrets, and law enforcement records. The law also provides administrative and judicial remedies for those inappropriately denied access to records.

On April 18, 2006, the Government Accountability Project (GAP) requested any and all records from the relevant climate research divisions of the National Oceanic and Atmospheric Administration (NOAA), National Aeronautics and Space Administration (NASA), and Environmental Protection Agency (EPA) pertaining to:

- That agency’s media policy and guidelines affecting a federal scientist’s communications with the press, the public, other agencies, non-government scientists, and other outside parties;
- Mechanisms in place and actions taken to enforce the above policies and guidelines;
- All records that demonstrate compliance with the anti-gag statutes, Section 818 and 820, Title VIII, Trans./Treasury/Judiciary/HUD Appropriations Act of 2006 (PL109-115);
- Public affairs monitors present during media interviews with federal scientists; and
- Federal employees’ complaints and/or suggestions on workplace freedom of expression.

Only NOAA came close to meeting the 20-day statutory response time mandated by FOIA when it released its first batch of 130 responsive documents on May 30, 2006.

On June 6, 2006, in light of new information uncovered in the first few months of the investigation, GAP supplemented its request with the following items from NOAA and NASA.

NOAA:

- Any and all preliminary, internal, or official responses to Senator Daniel Inouye’s February 16, 2006, “Questions for the record to Vice Admiral Conrad

⁵⁰¹ 5 U.S.C. § 552 (2002).

Lautenbacher (Ret.) following a hearing on the FY2007 Budget Request for the National Oceanic and Atmospheric Administration.”

- Any and all documents marked as belonging to the OAR Line/Staff office(s) and labeled “Questions and Answers” or “Q and A” with any of the following in their subheading(s):
 - “Muzzling”
 - “Climate Change”
 - “Hurricanes”
- Any and all communications regarding or containing the words “climate change,” “hurricanes,” or “global warming” generated by or received by Jana Goldman, Kent Laborde, James Mahoney, Jordan St. John, Randee Exler, Ahsha Tribble, Conrad Lautenbacher, Jennifer Sprague, or anyone else at the policy office of the Under Secretary of Commerce, NOAA Office Public, Constituent and Intergovernmental Affairs, or Office of Legislative Affairs. This includes, but is not limited to, communications with subsidiary public affairs officers, federal scientists, and members of the media.
- Any documents and communications concerning the press releases and other publicity materials prepared by NOAA public affairs for the 7th International Carbon Dioxide Conference in 2005.
- Any documents or communications that lay out NOAA’s media policy, and associated guidelines, prior to 2004.

NASA:

- Any and all communications regarding or containing the words “climate change,” “hurricanes,” or “global warming” generated by or received by Erica Hupp, Gretchen Cook-Anderson, George Deutsch, Dwayne Brown, Glen Mahone, Dean Acosta, Dolores Beasley, or anyone else at NASA Public Affairs Headquarters, Chief of Staff/White House Liaison office, or Office of the Administrator. This includes, but is not limited to, communications with subsidiary public affairs officers, federal scientists, and members of the media.

After extensive telephone discussions clarifying the scope and purpose of GAP’s request, NOAA provided nearly 2,000 pages of documents under separate cover on July 31, 2006, and August 6, 2006. In contrast, the NASA request yielded only nine pages of documents – a copy of NASA’s most recent media policy – on June 12, 2006. To date, the EPA has still not returned any responsive documents nor issued a letter denying or closing its search.

Despite the obvious failures of the FOIA process in the NASA and EPA requests, the NOAA request was also marked with significant irregularities. For example, a

parallel disclosure of several hundred pages made directly to us by one Boulder scientist never arrived through the official FOIA channels. Overwhelmingly, conversation strings between senior level officials and agency scientists or staff did not include the responses from the officials, including those at the Council on Environmental Quality and Department of Commerce. GAP received no documents in response to the first two items of our supplementary request. Finally, the records were redacted without a specific explanation of what exemption justified each redaction as set forth in our request and required by law⁵⁰²

Similar irregularities also appeared in the disclosures generated by FOIA requests from Paul Thacker⁵⁰³ and Greenpeace⁵⁰⁴. For example, Thacker has received no

⁵⁰² 5 U.S.C. § 552(a)(2).

⁵⁰³ *Thacker NOAA FOIA request* (December 16, 2005). From NOAA, Thacker requested all records pertaining to:

- Media outreach about climate change studies or studies that concern climate change from NOAA.
- All press releases and news stories about climate change and climate change studies from NOAA.
- Any communications between scientists, the press office, and agency officials regarding their studies and the creation of media outreach, news stories, or press releases – specifically communications involving Thomas Knutson, Venkatachalam Ramaswamy, Ronald Stouffer, Keith Dixon, Michael Winton, Kirsten Findell, Mike Spelman, Richard Wetherald, Thomas Delworth and other GFDL scientists working on climate change topics.
- Any communication within the press office regarding media outreach, news stories, and press releases on climate change topics at NOAA – specifically communications involving Jana Goldman, Ben Sherman, Kent Laborde, Michael Quigley, Jordan St. John, and Scott Mullen.

For an outline of FOIA issues encountered by the Massachusetts's Attorney General with CEQ in 2004, see http://www.whitehouse.gov/ceq/foia/correspondence/appeal/masscar_appeal_correspondence_9-23-04.pdf (last visited March 24, 2007).

⁵⁰⁴ On May 11, 2006, Greenpeace requested all records from January 2005 to present related to:

- Correspondence between staff members within the Climate Dynamics and Prediction Group of NOAA's Geophysical Fluid Dynamics Laboratory at Princeton and NOAA press officials or administrators concerning the link between their climate phenomena research and human-induced greenhouse gases. Please include official statements and documents that reference CDPG research and the efforts of these staff members to make public statements linking their research to global warming.
- All documents and correspondence directed at the following Climate Dynamics and Prediction Group researchers that reference any NOAA position on the link between climate phenomena and global warming:

- Thomas Delworth	- Anthony J. Rosati
- Keith Dixon	- C. Tony Gordon
- Kirsten Findell	- Rich G. Gudgel
- William Hurlin	- Matthew J. Harrison
- Thomas Knutson	- Joseph J. Sirutis
- Ronald Stouffer	- William F. Stern
- Mike Spelman	- Robert D. Smith

documents from NASA despite the fact that he clarified his request for draft press releases with NASA's General Counsel.⁵⁰⁵ Furthermore, in discussing the seemingly illegal NOAA redactions with their General Counsel, Thacker was told that the Department of Justice had been involved in screening the disclosures.⁵⁰⁶

-
- | | |
|---------------------|---------------------|
| - Richard Wetherald | - Andrew Wittenberg |
| - Michael Winton | - Gabriel Vecchi |
| - Hyun-Chul Lee | - Shaoqing Zhang |
| - Fanrong Zen | |
| - J. Tony Beesley | |
| - Jian Lu | |

- Any NOAA documents, correspondence or materials that relate to the Geophysical Fluid Dynamics Laboratory and the manner in which its staff members are instructed to release statements or research related to climate variability and global warming.

⁵⁰⁵ Paul Thacker, communication with Maassarani (February 25, 2007) *record on file with GAP*.

⁵⁰⁶ *Ibid*.

Appendix D: Background on Federal Climate Science Research

Federal government research into climate change is a large yet decentralized enterprise. Government climate scientists are scattered across several federal departments, programs, and independent agencies. Their development of high-tech, satellite-based Earth observation instruments and sophisticated computer models over the past few decades has helped transform the global warming hypothesis into a testable scientific theory. These advances are the result of a significant investment of scientific work and American taxpayer dollars. This section outlines the history, organizational structure, and funding of federal climate research.

History

Scientific research into the nature of global climate change has long been recognized by Congress as a national priority. The U.S. Global Change Research Program (USGCRP) was created as a presidential initiative in 1989 and subsequently codified by Congress in the Global Change Research Act of 1990 (GCRA). The USGCRP provided funding to several government agencies to undertake scientific research into climate change.

The GCRA mandated that the USGCRP and its affiliated agencies prepare periodic scientific assessments of climate change and its likely effects and submit them to Congress, producing "information readily usable by policymakers attempting to formulate effective strategies for preventing, mitigating, and adapting to the effects of global change."⁵⁰⁷ The first of these reports, the *National Assessment of the Potential Consequences of Climate Variability and Change*, was published in November 2000.

In 2001, President George W. Bush established the U.S. Climate Change Research Initiative (CCRI), with the goal of refocusing USGCRP resources to study "areas of uncertainty [about global climate change science]" and identifying "priority areas where investments can make a difference."⁵⁰⁸ In 2002, the U.S. Climate Change Science Program (CCSP) was formed as a successor to both the USGCRP and the CCRI, thereby becoming responsible for compliance with the requirements of the GCRA. The CCSP is currently led by Acting Director William Brennan, who is also deputy assistant secretary for international affairs at the National Oceanic and Atmospheric Administration.

The CCSP has announced no plans to sponsor research for the congressionally mandated second national assessment report, and has instead decided to produce 21 separate "synthesis and assessment" products in order to meet the scientific reporting requirements of the GCRA. The first of these products, *Temperature Trends in the Lower Atmosphere: Steps for Understanding and Reconciling Differences*, was published in

⁵⁰⁷ U.S. Global Change Research Information Office (GCRIO). 2004. U.S. Global Change Research Act of 1990, Public Law 101-606 (11/16/90) 104 Stat. 3096-3104 available at <http://www.gcric.org/gcact1990.html> (last visited March 24, 2007).

⁵⁰⁸ See <http://www.climate-science.gov/about/ccri.htm> (last visited March 24, 2007).

April 2006. The CCSP is also responsible for providing an annual report to Congress, *Our Changing Planet*, detailing the status of climate science research and funding. The National Academy of Sciences has convened a committee to provide advice to the CCSP regarding evaluation of its current goals and strategic planning for future priorities.

Organization

We estimate that more than 2,000 government scientists spend at least part of their time researching climate-related issues. The agencies where most of the scientists are employed are:

- National Oceanic & Atmospheric Administration (NOAA)
- National Aeronautics and Space Administration (NASA)
- U.S. Department of Energy (DOE)
- U.S. Department of Agriculture (USDA)
- U.S. Geological Survey (USGS)
- U.S. Environmental Protection Agency (EPA)
- U.S. Department of Defense (DOE)

The CCSP is responsible for coordinating climate science research at all of these entities except the DOD, which does not have climate change as a dedicated research program but does fund some climate science research. Climate-related programs also take place at the National Institute of Standards and Technology, the National Institutes of Health, the U.S. Agency for International Development, the Smithsonian Institution, and the Department of Transportation. The CCSP also coordinates these programs, but they are either smaller research efforts, or are not primarily focused on basic climate science.

Within each federal agency, climate research may take place in a number of discrete departments and laboratories—sometimes dozens of locations within a single agency. Federal funding also supports hundreds of climate scientists at academic centers around the country. One of the biggest non-governmental climate research centers is the National Center for Atmospheric Research, an organization of atmospheric and geoscience researchers who are funded by the National Science Foundation but are not government employees.

Although it is difficult to briefly summarize the work of large federal agencies, below are examples of the type of climate research several agencies undertake:⁵⁰⁹

- Research at NOAA focuses on developing a “predictive understanding of the global climate system” by observing climate variability and modeling both oceanic and atmospheric behavior. NOAA also aims to provide climate-related information “sufficient for making informed and reasoned decisions,” to a wide range of policy makers.

⁵⁰⁹ See <http://www.usgcrp.gov/usgcrp/agencies/noaa.htm> (last visited on March 24, 2007).

- NASA researchers gather data from space-based Earth observation satellites and use the results to help develop some of the world's most sophisticated climate models. NASA researchers also use this data to study a wide range of subjects related to global climate change, from clouds to solar irradiance to potential effects of global warming.
- The DOE, through its Office of Science and national laboratories, conducts research into the "effects of energy production and use on the global climate system, primarily through studies of climate response." The DOE labs conduct basic and applied climate research, emphasizing new energy and carbon sequestration technologies that could reduce emissions of heat-trapping gases.
- The USDA's Agricultural Research Service focuses on how climate affects terrestrial systems, including the water and carbon cycles and species distribution. The goal of this research is to plan for the potential effects of climate change on agricultural and forest systems.
- The USGS, in the U.S. Department of the Interior, conducts studies designed to "understand the interactions between climate, Earth surface processes, and ecosystems on time scales ranging from years to millennia." USGS scientists observe local trends in land use, hydrologic processes, and species diversity, providing information that can be used in climate research.
- Climate change research at the EPA focuses on "evaluating the potential consequences of global change...on air quality, water quality, ecosystems, and human health in the United States."
- The DOD does not have a dedicated climate change research program, but does support targeted research that concurrently satisfies its national security mission. DOD climate programs include development of satellite-based observation systems, ocean modeling software, and polar regions research.

Appendix E: Model Media Policy

Section 1: Purpose

.01 This Order establishes this agency's media policy governing media communications including advisories, press releases, statements, interviews, news conferences, and other related media contacts. Public affairs offices have been established to facilitate the active dissemination of agency research results and to coordinate media and public relations activities. A principal goal of public affairs is to help the agency or program achieve its vision of a better informed society and of policy making based on sound and objective science.

Section 2: Rights

.01 Scientists and other employees of the government have the fundamental right to express their personal views, provided they specify that they are not speaking on behalf of, or as a representative of, the agency, but rather in their private capacity. So long as this disclaimer is made, the employee is permitted to mention his or her institutional affiliation and position if this has helped inform his or her views on the matter. The employee is allowed to make reasonable use of agency time and resources for the purposes of expressing their personal views, i.e. accommodations comparable to what would be allowed on other personal matters.

.02 Employees have the right of final review to approve and comment publicly upon the text of any proposed publication that significantly relies on or interprets their scientific research, identifies them as a lead author or contributor, or purports to represent their scientific opinion. In the case of multi-author publications, procedures should be set up to allow co-authors to have a meaningful right of review and comment.

.03 Final authority over the content of and parties to any particular media communication rests with the reporter and the scientist he or she requests.

Section 3: Responsibilities

.01 Public affairs is responsible for

- a) promoting media attention on important scientific and institutional developments,
- b) coordinating journalists and the sources of information they are looking for, and
- c) providing both reporters and scientists with timely, accurate, and professional media assistance.

.02 Employees are responsible for working with public affairs to make significant research developments accessible and comprehensible to the public.

.03 Employees are responsible for the accuracy and integrity of their communications and should not represent the agency on issues of politics or policy without prior approval from the public affairs office (PAO). Employees are not free to disclose classified information unless authorized by the U.S. Government or federal statute.

Section 4: Guidelines for Media and Public Interactions

- .01 To help public affairs best fulfill its responsibilities, employees are asked to
- a) keep the PAO informed of any media interest or potential for interest in your work, subject to the protections of the Whistleblower Protection Act
 - b) notify the PAO of any impending media contacts and provide a recap afterwards
 - c) request press releases from the PAO and submit drafts for review of their form and non-scientific content
 - d) work with the PAO to review presentations or news conferences for their form and non-scientific content
- .02 Public affairs officers should
- a) respond to all media inquiries within 120 minutes during the workday
 - b) do all they can to help reporters get the appropriate information know the reporter's deadline to ensure timely response
 - c) provide contact information where they will be available, even after hours, on weekends, and on holidays
 - d) draft regional and national press releases whenever warranted
 - e) ensure a timely turn-around on press releases over no more than one week
 - f) develop or coordinate the development of talking points in collaboration with the relevant experts for the release of scientific papers and other agency products

Section 5: Media Coverage

.01 In the spirit of openness, media representatives must be granted free access to open meetings of advisory committees and other meetings convened by this agency, as well as permission to reasonably use tape recorders, cameras, and electronic equipment for broadcast purposes.

.02 The PAO sponsoring or co-sponsoring a meeting may be present, or consulted, to undertake all responsibilities of a news media nature, including but not restricted to necessary physical arrangements.

.03 It shall be the responsibility of the servicing PAO to cooperate fully with and accede to all reasonable requests from news media representatives. In instances where conflicts or misunderstandings may arise from the expressed views, wishes, or demands on the

part of news media representatives, such matters should be referred at once to the Director for resolution.

.04 The PAO Director shall exercise full authority and assume responsibility for all decisions involving the news media and related activity.

Section 6: Internal Reporting

.01 The agency will offer an internal disclosure system to allow for the confidential reporting and meaningful resolution of inappropriate alterations, conduct, or conflicts of interest that arise with regards to media communications.

Anti-Gag Addendum and Relevant Statutory Rights

These restrictions are consistent with and do not supersede, conflict with, or otherwise alter the employee obligations, rights, or liabilities created by Executive Order No. 12958; section 7211 of title 5, United States Code (governing disclosures to Congress); section 1034 of title 10, United States Code, as amended by the Military Whistleblower Protection Act (governing disclosure to Congress by members of the military); section 2302(b)(8) of title 5, United States Code, as amended by the Whistleblower Protection Act (governing disclosures of illegality, waste, fraud, abuse or public health or safety threats); the Intelligence Identities Protection Act of 1982 (50 U.S.C. 421 et seq.) (governing disclosures that could expose confidential Government agents); and the statutes which protect against disclosure that may compromise the national security, including sections 641, 793, 794, 798, and 952 of title 18, United States Code, and section 4(b) of the Subversive Activities Act of 1950 (50 U.S.C. 783(b)). The definitions, requirements, obligations, rights, sanctions, and liabilities created by said Executive order and listed statutes are incorporated into this agreement and are controlling.”: Provided, That notwithstanding the preceding paragraph, a nondisclosure policy form or agreement that is to be executed by a person connected with the conduct of an intelligence or intelligence-related activity, other than an employee or officer of the United States Government, may contain provisions appropriate to the particular activity for which such document is to be used. Such form or agreement shall, at a minimum, require that the person will not disclose any classified information received in the course of such activity unless specifically authorized to do so by the United States Government. Such nondisclosure forms shall also make it clear that they do not bar disclosures to Congress or to an authorized official of an executive agency or the Department of Justice that are essential to reporting a substantial violation of law.

The Whistleblower Protection Act, 5 USC 2302(b)(8), states that:

(b) Any employee who has authority to take, direct others to take, recommend, or approve any personnel action, shall not, with respect to such authority –

(8) take or fail to take, or threaten to take or fail to take, a personnel action with respect to any employee or applicant for employment because of –

(A) any disclosure of information by an employee or applicant which the employee or applicant reasonably believes evidences –

(i) a violation of any law, rule, or regulation, or

(ii) gross mismanagement, a gross waste of funds, an abuse of authority, or a substantial and specific danger to public health or safety, if such disclosure is not specifically prohibited by law and if such information is not specifically required by Executive order to be kept secret in the interest of national defense or the conduct of foreign affairs; or

(B) any disclosure to the Special Counsel, or to the Inspector General of an agency or another employee designated by the head of the agency to receive such disclosures, of information which the employee or applicant reasonably believes evidences –

(i) a violation of any law, rule, or regulation, or

(ii) gross mismanagement, a gross waste of funds, an abuse of authority, or a substantial and specific danger to public health or safety;

The Lloyd-Lafollette Act, 5 USC 7211, states that:

The right of employees, individually or collectively, to petition Congress or a Member of Congress, or to furnish information to either House of Congress, or to a committee or Member thereof, may not be interfered with or denied.

Smoke, Mirrors & Hot Air

**How ExxonMobil Uses Big Tobacco's Tactics
to Manufacture Uncertainty on Climate Science**

Union of Concerned Scientists
January 2007

© 2007 Union of Concerned Scientists
All rights reserved

The Union of Concerned Scientists is the leading science-based nonprofit working for a healthy environment and a safer world.

UCS combines independent scientific research and citizen action to develop innovative, practical solutions and secure responsible changes in government policy, corporate practices, and consumer choices.

Union of Concerned Scientists
Two Brattle Square
Cambridge, MA 02238-9105

Phone: 617-547-5552

Fax: 617-864-9405

Email: ucs@ucsusa.org

CONTENTS

Executive Summary	1
Introduction	3
Background: The Facts about ExxonMobil	4
The Origins of a Strategy	6
ExxonMobil's Disinformation Campaign	9
Putting the Brakes on ExxonMobil's Disinformation Campaign	25
Appendices	
A. The Scientific Consensus on Global Warming	29
B. Groups and Individuals Associated with ExxonMobil's Disinformation Campaign	31
C. Key Internal Documents	37
• 1998 "Global Climate Science Team" memo	38
• APCO memo to Philip Morris regarding the creation of TASCC	44
• Dobriansky talking points	49
• Randy Randol's February 6, 2001, fax to the Bush team calling for Watson's dismissal	51
• Sample mark up of Draft Strategic Plan for the Climate Change Science Program by Philip Cooney	56
• Email from Myron Ebell, Competitive Enterprise Institute, to Phil Cooney	57
Endnotes	58

ACKNOWLEDGMENTS

Seth Shulman was the lead investigator and primary author of this report. Kate Abend and Alden Meyer contributed the final chapter. Kate Abend, Brenda Ekwurzel, Monica La, Katherine Moxher, Suzanne Shaw, and Anita Spiess assisted with research, fact checking, and editing.

UCS would like to thank Kert Davies, Research Director for *ExxonSecrets.org*, for pointing the author to original source material, Annie Peterson for providing input during initial scoping of the project, and the Natural Resources Defense Council for sharing FOIA documents. UCS is thankful to the individuals and organizations cited in this report who have explored various aspects of ExxonMobil's funding of climate contrarians and the tobacco and climate link.

UCS would also like to thank the following individuals for their helpful comments on various aspects of the report: Naomi Oreskes, Rick Piltz, James McCarthy, Don Wuebbles, Erik Conway, Kevin Knobloch, Alden Meyer, and Peter Frumhoff.

We would also like to acknowledge the invaluable resource that has been created by the court ordered public disclosure of tobacco industry documents.

The findings and opinions expressed in this report do not necessarily reflect the opinion of the reviewers who provided comment on its content. Both the opinions and the information contained herein are the sole responsibility of the Union of Concerned Scientists.

EXECUTIVE SUMMARY

In an effort to deceive the public about the reality of global warming, ExxonMobil has undertaken the most sophisticated and most successful disinformation campaign since the tobacco industry misled the public about the scientific evidence linking smoking to lung cancer and heart disease. As this report documents, the two disinformation campaigns are strikingly similar. ExxonMobil has drawn upon the tactics and even some of the organizations and actors involved in the callous disinformation campaign the tobacco industry waged for 40 years. Like the tobacco industry, ExxonMobil has

- *Manufactured uncertainty* by raising doubts about even the most indisputable scientific evidence.
- Adopted a strategy of *information laundering* by using seemingly independent front organizations to publicly further its desired message and thereby confuse the public.
- *Promoted scientific spokespersons* who misrepresent peer-reviewed scientific findings or cherry-pick facts in their attempts to persuade the media and the public that there is still serious debate among scientists that burning fossil fuels has contributed to global warming and that human-caused warming will have serious consequences.
- *Attempted to shift the focus* away from meaningful action on global warming with misleading charges about the need for “sound science.”
- *Used its extraordinary access to the Bush administration* to block federal policies and shape government communications on global warming.

The report documents that, despite the scientific consensus about the fundamental understanding that global warming is caused by carbon dioxide and other heat-trapping emissions, ExxonMobil has funneled about \$16 million between 1998 and 2005 to a network of ideological and advocacy organizations that manufacture uncertainty on the issue. Many of these organizations have an overlapping—sometimes identical—collection of spokespersons serving as staff, board members, and scientific advisors. By publishing and republishing the non-peer-reviewed works of a small group of scientific spokespersons, ExxonMobil-funded organizations have popped up and amplified work that has been discredited by reputable climate scientists.

ExxonMobil's funding of established research institutions that seek to better understand science, policies, and technologies to address global warming has given the corporation “cover,” while its funding of ideological and advocacy organizations to conduct a disinformation campaign works to confuse that understanding. This seemingly inconsistent activity makes sense when looked at through a broader lens. Like the tobacco companies in previous decades, this strategy provides a positive “pro-science” public stance for ExxonMobil that masks their activity to delay meaningful action on global warming and helps keep the public debate

stalled on the science rather than focused on policy options to address the problem.

In addition, like Big Tobacco before it, ExxonMobil has been enormously successful at influencing the current administration and key members of Congress. Documents highlighted in this report, coupled with subsequent events, provide evidence of ExxonMobil's cozy relationship with government officials, which enables

the corporation to work behind the scenes to gain access to key decision makers. In some cases, the company's proxies have directly shaped the global warming message put forth by federal agencies. Finally, this report provides a set of steps elected officials, investors, and citizens can take to neutralize ExxonMobil's disinformation campaign and remove this roadblock to sensible action for reducing global warming emissions.

INTRODUCTION

ExxonMobil, the world's largest publicly traded corporation, doesn't want you to know the facts about global warming. The company vehemently opposes any governmental regulation that would require significantly expanded investments in clean energy technologies or reductions in global warming emissions. That is what the public and policymakers are likely to demand when they know the truth about climate science. Consequently, the corporation has spent millions of dollars to deceive the public about global warming. In so doing, ExxonMobil has underwritten the most sophisticated and successful disinformation campaign since Big Tobacco misled the public about the incontrovertible scientific evidence linking smoking to lung cancer and heart disease. In fact, as this report shows, many of the tactics, and even some of the same organizations and actors used by ExxonMobil to mislead the public, draw upon

the tobacco industry's 40-year disinformation campaign.

This report documents ExxonMobil's central role in the current disinformation campaign about climate science, identifying the campaign's rationale, who's behind it, and how it has been able—so far—to successfully mislead the public, influence government policies, and forestall federal action to reduce global warming emissions.

ExxonMobil's cynical strategy is built around the notion that public opinion can be easily manipulated because climate science is complex, because people tend not to notice where their information comes from, and because the effects of global warming are just beginning to become visible. But ExxonMobil may well have underestimated the public. The company's strategy quickly unravels when people understand it for what it is: an active campaign of disinformation.

*Background***THE FACTS ABOUT EXXONMOBIL**

ExxonMobil is a powerful player on the world stage. It is the world's largest publicly traded company: at \$339 billion,¹ its 2005 revenues exceeded the gross domestic products of most of the world's nations.² It is the most profitable corporation in history. In 2005, the company netted \$36 billion³—nearly \$100 million in profit *each day*.

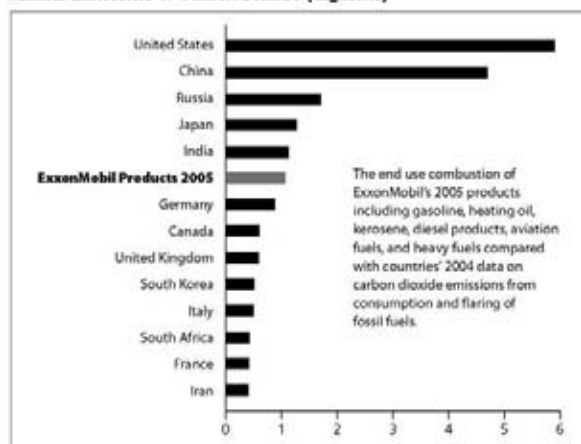
As the biggest player in the world's gas and oil business, ExxonMobil is also one of the world's largest producers of global warming pollution. Company operations alone pumped the equivalent of 138 million metric tons of carbon dioxide into the atmosphere in 2004⁴ and roughly the same level of emissions in 2005, according to

company reporting.⁵ In 2005, the end use combustion of ExxonMobil's products—gasoline, heating oil, kerosene, diesel products, aviation fuels, and heavy fuels—resulted in 1,047 million metric tons of carbon dioxide-equivalent emissions.⁶ If it was a country, ExxonMobil would rank sixth in emissions.

While some oil companies like BP, Occidental Petroleum, and Shell have begun to invest in clean energy technologies and publicly committed to reduce their heat-trapping emissions, ExxonMobil has made no such commitment.

Lee Raymond, ExxonMobil's chief executive officer (CEO) until 2006, set a brazenly unapolo-

Annual Emissions of Carbon Dioxide (Gigatons)



* Country data available at <http://www.usa.doe.gov/real/carbon.html>

getic corporate tone on global warming. During his nearly 13 years as ExxonMobil's leader, Raymond unabashedly opposed caps on carbon dioxide emissions and refused to acknowledge the scientific consensus on global warming. Under Raymond's direction, ExxonMobil positioned itself, as Paul Krugman of the *New York Times* recently put it, as "an enemy of the planet."⁷ Not only did he do nothing to curb his company's global warming emissions, during his tenure Raymond divested the company of nearly all its alternative energy holdings.⁸ During his time as CEO, ExxonMobil's board lavishly rewarded him with compensation amounting to more than \$686 million.⁹ When Raymond retired at the end of 2005, he received an exorbitant retirement package worth nearly \$400 million, prompting sharp criticism from shareholders.¹⁰ ExxonMobil is now headed by CEO Rex Tillerson, but the corporate policies Raymond forged so far remain largely intact.

ExxonMobil has played the world's most active corporate role in underwriting efforts to thwart and undermine climate change regulation. For instance, according to the Center for Responsive Politics, ExxonMobil's PAC—its political action committee—and individuals affiliated with the company made more than \$4 million in political contributions throughout the 2000 to 2006 election cycles. It was consistently among the top four energy sector contributors. In the 2004 election cycle alone, ExxonMobil's PAC and individuals affiliated with the company gave \$935,000 in political contributions, more than any other energy company. Much of that money went in

This report identifies how strategies and tactics used by ExxonMobil mirror the well-documented campaign by the tobacco industry to prevent government regulation by creating public confusion about the link between smoking and disease.

turn to President Bush's election campaign.¹¹ In addition, ExxonMobil paid lobbyists more than \$61 million between 1998 and 2005 to help gain access to key decision makers.¹²

This report does not attempt to shed light on all ExxonMobil activities related to global warming. Instead, it takes an in-depth look at how the relatively modest investment of about \$16 million between 1998 and 2004 to select political organizations¹³ has been remarkably effective at manufacturing uncertainty about the scientific consensus on global warming. It offers examples to illustrate how ExxonMobil's influence over key administration officials and members of Congress has fueled the disinformation campaign and helped forestall federal action to reduce global warming emissions. And this report identifies how strategies and tactics used by ExxonMobil mirror the well-documented campaign by the tobacco industry to prevent government regulation by creating public confusion about the link between smoking and disease.

THE ORIGINS OF A STRATEGY

*We will never produce and market a product shown
to be the cause of any serious human ailment.*

— TOBACCO INDUSTRY RESEARCH COMMITTEE.
"FRANK STATEMENT TO CIGARETTE SMOKERS."
PUBLISHED IN 1954.¹⁴

In its campaign to sow uncertainty about the scientific evidence on global warming, Exxon-Mobil has followed a corporate strategy pioneered by the tobacco industry. Because ExxonMobil's strategy, tactics, and even some personnel draw heavily from the tobacco industry's playbook, it is useful to look briefly at this earlier campaign. The settlement of the lawsuit brought by the attorneys general of 46 states forced the major tobacco companies to place their enormous caches of internal documents online.¹⁵ Thanks to these archives, the details of the tobacco industry's covert strategy are now clear.

The story begins in the mid-1950s when scientific evidence began to emerge linking smoking to cancer. The tobacco industry's initial response was to fund a research consortium, initially called the Tobacco Industry Research Committee and later known as the U.S. Tobacco Institute, to "study the issue." In 1954, Big Tobacco released a seminal public document called the "Frank Statement to Cigarette Smokers," which set the industry's tone for the coming decades. This document questioned the emerging scientific evidence of the harm caused by smoking but tried to appear concerned about the issue, pledging to the public that the industry would look closely at the scientific evidence and study it themselves.¹⁶

As we now know, tobacco industry lawyers advised the companies early on that they could

never admit they were selling a hazardous product without opening themselves to potentially crippling liability claims.¹⁷ So, rather than studying the health hazards posed by their products, the tobacco industry hired Hill & Knowlton, a leading public relations firm of the day to mount a public relations campaign on their behalf. In a key memo, Hill & Knowlton framed the issue this way: "There is only one problem—confidence and how to establish it; public assurance, and how to create it."¹⁸ In other words, the tobacco companies should ignore the deadly health effects of smoking and focus instead on maintaining the public's confidence in their products.

As time went on, a scientific consensus emerged about a multitude of serious dangers from smoking—and the tobacco manufacturers knew it. Despite the evidence, the industry developed a sophisticated disinformation campaign—one they knew to be misleading—to deceive the public about the hazards of smoking and to forestall governmental controls on tobacco consumption.

HOW BIG TOBACCO'S CAMPAIGN WORKED

In executing their calculated strategy over the course of decades, tobacco industry executives employed five main tactics:

- They sought to *manufacture uncertainty* by raising doubts about even the most indisputable scientific evidence showing their products to be hazardous to human health.
- They pioneered a strategy of “*information laundering*” in which they used—and even covertly established—seemingly independent front organizations to make the industry’s own case and confuse the public.
- They *promoted scientific spokespeople* and invested in scientific research in an attempt to lend legitimacy to their public relations efforts.
- They attempted to *recast the debate* by charging that the wholly legitimate health concerns raised about smoking were not based upon “sound science.”
- Finally, they *cultivated close ties with government officials* and members of Congress. While many corporations and institutions seek access to government, Tobacco’s size and power gave it enormous leverage.

In reviewing the tobacco industry’s disinformation campaign, the first thing to note is that the tobacco companies quickly realized they did not need to prove their products were safe. Rather, as internal documents have long since revealed, they had only to “maintain doubt” on the scientific front as a calculated strategy. As one famous internal memo from the Brown & Williamson tobacco company put it: “Doubt is our product, since it is the best means of competing with the ‘body of fact’ that exists in the minds of the general public. It is also the means of establishing a controversy.”¹⁹ David Michaels, professor of occupational and environmental health at George Washington University School of Public Health and former assistant secretary for the environment, safety and health at the Department of Energy during

the Clinton administration, has dubbed the strategy one of “manufacturing uncertainty.”²⁰ As Michaels has documented, Big Tobacco pioneered the strategy and many opponents of public health and environmental regulations have emulated it.

From the start, the goal of the tobacco industry’s disinformation campaign was simple: to

“Doubt is our product, since it is the best means of competing with the ‘body of fact’ that exists in the minds of the general public. It is also the means of establishing a controversy.”

— BROWN & WILLIAMSON

undermine scientific evidence of the health risks of smoking in any way possible. Thus, for forty years, the tobacco companies strove to manufacture doubt, uncertainty, and controversy about the dangers of smoking where increasingly none existed. The companies publicly fought the evidence of a link between smoking and lung cancer. They disputed the evidence of a link between smoking and heart disease. They questioned the scientific evidence showing that nicotine was highly addictive. And they tried to raise uncertainty about the scientific evidence showing the dangers of secondhand smoke. No researcher or institution was immune from their tactics. For instance, as a 2000 report from the World Health Organization details, the tobacco companies went to extraordinary lengths to try to undermine the scientific evidence at that institution. They paid WHO employees to spread misinformation, hired institutions and individuals to discredit the international organization, secretly funded reports designed to distort scientific studies, and even covertly monitored WHO meetings and conferences.²¹

Big Tobacco's strategy proved remarkably successful; "doubt" turned out to be a relatively easy product to sell. Today, smoking continues to cause an estimated 5 million deaths per year worldwide²² and some 45 million people in the United States continue to smoke²³—both illustrations of the success of the tobacco companies' campaign to prevent governments from implementing strong tobacco control policies. Meanwhile, the tobacco

industry continues to be profitable despite the multi-billion-dollar settlement of the U.S. states' lawsuit against tobacco manufacturers. The "uncertainty" argument has also proved resilient. As Murray Walker, former Vice President of the U.S. Tobacco Institute put it when he testified under oath in a 1998 trial brought against the tobacco firms: "We don't believe it's ever been established that smoking is the cause of disease."²⁴

EXXONMOBIL'S DISINFORMATION CAMPAIGN

Victory will be achieved when average citizens "understand" (recognize) uncertainties in climate science.

—INTERNAL MEMO BY THE AMERICAN PETROLEUM INSTITUTE, 1998

In the late 1980s, when the public first began to hear about global warming, scientists had already conducted more than a century of research on the impact of carbon dioxide on earth's climate (see Appendix A for more information). As the science matured in the late 1980s, debate, a key component of the scientific process, surfaced among reputable scientists about the scope of the problem and the extent to which human activity was responsible. Much like the status of scientific knowledge about the health effects of smoking in the early 1950s, emerging studies suggested cause for concern but many scientists justifiably argued that more research needed to be done.²⁵

Exxon (and later ExxonMobil), concerned about potential repercussions for its business, argued from the start that no global warming trend existed and that a link between human activity and climate change could not be established.²⁶ Just as the tobacco companies initially responded with a coalition to address the health effects of smoking, Exxon and the American Petroleum Institute (an organization twice chaired by former Exxon CEO Lee Raymond) joined with other energy, automotive, and industrial companies in 1989 to form the Global Climate Coalition.²⁷ The coalition responded aggressively to the emerging scientific studies about global warming by opposing governmental action designed to address the problem.

Drawing on a handful of scientific spokespeople during the early and mid-1990s, the Global Climate Coalition emphasized the remaining uncertainties in climate science.²⁸ Exxon and other members of the coalition challenged the need for action on global warming by denying its existence as well as characterizing global warming as a natural phenomenon.²⁹ As Exxon and its proxies mobilized forces to cast doubt on global warming, however, a scientific consensus was emerging that put their arguments on exceptionally shaky scientific ground (see Appendix A).

MANUFACTURING UNCERTAINTY

By 1997, scientific understanding that human-caused emissions of heat-trapping gases were causing global warming led to the Kyoto Protocol, in which the majority of the world's industrialized nations committed to begin reducing their global warming emissions on a specified timetable. In response to both the strength of the scientific evidence on global warming and the governmental action pledged to address it, leading oil companies such as British Petroleum, Shell, and Texaco changed their stance on climate science and abandoned the Global Climate Coalition.³⁰

ExxonMobil chose a different path.

In 1998, ExxonMobil helped create a small task force calling itself the "Global Climate Science Team" (GCST). Members included Randy Randol,

ExxonMobil's senior environmental lobbyist at the time, and Joe Walker, the public relations representative of the American Petroleum Institute.³¹ One member of the GCST task force, Steven Milloy, headed a nonprofit organization called the Advancement of Sound Science Coalition, which had been covertly created by the tobacco company Philip Morris in 1993 to manufacture uncertainty about the health hazards posed by second-hand smoke.³²

A 1998 GCST task force memo outlined an explicit strategy to invest millions of dollars to manufacture uncertainty on the issue of global warming³³—a strategy that directly emulated Big Tobacco's disinformation campaign. Despite mounting scientific evidence of the changing climate, the goal the team outlined was simple and familiar. As the memo put it, "Victory will be achieved when average citizens understand (recognize) uncertainties in climate science" and when public "recognition of uncertainty becomes part of the 'conventional wisdom.'"³⁴ (For full text of the memo, see Appendix C.)

Regardless of the mounting scientific evidence, the 1998 GCST memo contended that "if we can show that science does not support the Kyoto treaty...this puts the United States in a stronger moral position and frees its negotiators from the need to make concessions as a defense against perceived selfish economic concerns."³⁵

ExxonMobil and its partners no doubt understood that, with the scientific evidence against them, they would not be able to influence reputable scientists. The 1998 memo proposed that ExxonMobil and its public relations partners "develop and implement a national media relations program to inform the media about uncertainties in climate science."³⁶ In the years that followed, ExxonMobil executed the strategy as planned underwriting a wide array of front organizations to publish in-house articles by select

scientists and other like-minded individuals to raise objections about legitimate climate science research that has withstood rigorous peer review and has been replicated in multiple independent peer-reviewed studies—in other words, to attack research findings that were well established in the scientific community. The network ExxonMobil created masqueraded as a credible scientific alternative, but it publicized discredited studies and cherry-picked information to present misleading conclusions.

INFORMATION LAUNDERING

A close review reveals the company's effort at what some have called "information laundering": projecting the company's desired message through ostensibly independent nonprofit organizations. First, ExxonMobil underwrites well-established groups such as the American Enterprise Institute, the Competitive Enterprise Institute, and the Cato Institute that actively oppose mandatory action on global warming as well as many other environmental standards. But the funding doesn't stop there. ExxonMobil also supports a number of lesser-known organizations that help to market and distribute global warming disinformation. Few of these are household names. For instance, most people are probably not familiar with the American Council for Capital Formation Center for Policy Research, the American Legislative Exchange Council, the Committee for a Constructive Tomorrow, or the International Policy Network, to name just a few. Yet these organizations—and many others like them—have received sizable donations from ExxonMobil for their climate change activities.³⁷

Between 1998 and 2005 (the most recent year for which company figures are publicly available), ExxonMobil has funneled approximately \$16 million to carefully chosen organizations that promote disinformation on global warming.³⁸ As the *New*

York Times has reported, ExxonMobil is often the single largest corporate donor to many of these nonprofit organizations, frequently accounting for more than 10 percent of their annual budgets.³⁹ (For more detailed information, see Appendix B, Table 1.)

A close look at the work of these organizations exposes ExxonMobil's strategy. Virtually all of them publish and publicize the work of a nearly identical group of spokespeople, including scientists who misrepresent peer-reviewed climate findings and confuse the public's understanding of global warming. Most of these organizations also include these same individuals as board members or scientific advisers.

Why would ExxonMobil opt to fund so many groups with overlapping spokespeople and programs? By generously funding a web of organizations with redundant personnel, advisors, or spokespeople, ExxonMobil can quietly and effectively provide the appearance of a broad platform for a tight-knit group of vocal climate science contrarians. The seeming diversity of the organizations creates an "echo chamber" that amplifies and sustains scientific disinformation even though many of the assertions have been repeatedly debunked by the scientific community.

Take, for example, ExxonMobil's funding of a Washington, DC-based organization called *Frontiers of Freedom*.⁴⁰ Begun in 1996 by former Senator Malcolm Wallop, *Frontiers of Freedom* was founded to promote property rights and critique environmental regulations like the Endangered Species Act.⁴¹ One of the group's staff members, an economist named Myron Ebell, later served as a member of the Global Climate Science Team, the small task force that laid out ExxonMobil's 1998 message strategy on global warming. Following the outline of the task force's plan in 1998, ExxonMobil began funding *Frontiers of Freedom*—a group that Vice President Dick Cheney

The network ExxonMobil created masqueraded as a credible scientific alternative, but it publicized discredited studies and cherry-picked information to present misleading conclusions.

recently called "an active, intelligent, and needed presence in the national debate."⁴²

Since 1998, ExxonMobil has spent \$857,000 to underwrite the *Frontiers of Freedom*'s climate change efforts.⁴³ In 2002, for example, ExxonMobil made a grant to *Frontiers of Freedom* of \$232,000⁴⁴ (nearly a third of the organization's annual budget) to help launch a new branch of the organization called the Center for Science and Public Policy, which would focus primarily on climate change.

A recent visit to the organization's website finds little information about the background or work of the Center for Science and Public Policy.⁴⁵ The website offers no mention of its staff or board members other than its current executive director Robert Ferguson, for whom it offers no biographical information. As of September 2006, however, the website did prominently feature a 38-page non-peer-reviewed report by Ferguson on climate science, heavily laden with maps, graphs, and charts, entitled "Issues in the Current State of Climate Science: A Guide for Policy Makers and Opinion Leaders."⁴⁶ The document offers a hodgepodge of distortions and distractions posing as a serious scientific review. Ferguson questions the clear data showing that the majority of the globe's glaciers are in retreat by feebly arguing that not all glaciers have been inventoried, despite the monitoring of thousands of glaciers worldwide.⁴⁷

And, in an attempt to dispute solid scientific evidence that climate change is causing extinctions of animal species, Ferguson offers the non sequitur that several new butterfly and frog species were recently discovered in New Guinea.⁴⁸

Perhaps most notable are Ferguson's references, citing a familiar collection of climate science contrarians such as Willie Soon (see p. 30 for more on Soon). In fact, although his title is not listed on the organization's website, Soon is the Center for Science and Public Policy's "chief science researcher," according to a biographical note accompanying a 2005 *Wall Street Journal* op-ed co-authored by Ferguson and Soon.⁴⁹ Ferguson's report was not subject to peer review, but it is nonetheless presented under the auspices of the authoritative-sounding Center for Science and Public Policy.

Another organization used to launder information is the George C. Marshall Institute. During the 1990s, the Marshall Institute had been known primarily for its work advocating a "Star Wars" missile defense program. However, it soon became an important home for industry-financed "climate contrarians," thanks in part to ExxonMobil's financial backing. Since 1998, ExxonMobil has paid \$630,000 primarily to underwrite the Marshall Institute's climate change effort.⁵⁰ William O'Keefe, CEO of the Marshall Institute, formerly worked as executive vice president and chief operating officer of the American Petroleum Institute, served on the board of directors of the Competitive Enterprise Institute, and is chairman emeritus of the Global Climate Coalition.⁵¹

Since ExxonMobil began to support its efforts, the Marshall Institute has served as a clearinghouse for global warming contrarians, conducting round-table events and producing frequent publications. Most recently, the Marshall Institute has been touting its new book, *Shattered Consensus: The True State of Global Warming*, edited by long-

time climate contrarian Patrick Michaels (a meteorologist). Michaels has, over the past several years, been affiliated with at least ten organizations funded by ExxonMobil.⁵² Contributors to the book include others with similar affiliations with Exxon-funded groups: Sallie Baliunas, Robert Balling, John Christy, Ross McKittrick, and Willie Soon⁵³ (for details, see Appendix B, Table 2).

The pattern of information laundering is repeated at virtually all the private, nonprofit climate change programs ExxonMobil funds. The website of the Chicago-based Heartland Institute, which received \$119,000 from ExxonMobil in 2005,⁵⁴ offers recent articles by the same set of scientists. A visit to the climate section of the website of the American Legislative Exchange Council, which received \$241,500 from ExxonMobil in 2005,⁵⁵ turns up yet another non-peer-reviewed paper by Patrick Michaels.⁵⁶ The Committee for a Constructive Tomorrow, which received \$215,000 from ExxonMobil over the past two funding cycles of 2004 and 2005,⁵⁷ boasts a similar lineup of articles and a scientific advisory panel that includes Sallie Baliunas, Robert Balling, Roger Bate, Sherwood Idso, Patrick Michaels, and Frederick Seitz—all affiliated with other ExxonMobil-funded organizations.⁵⁸

A more prominent organization funded by ExxonMobil is the Washington, DC-based Competitive Enterprise Institute (CEI). Founded in 1984 to fight government regulation on business, CEI started to attract significant ExxonMobil funding when Myron Ebell moved there from Frontiers of Freedom in 1999. Since then, CEI has not only produced a steady flow of vituperative articles and commentaries attacking global warming science, often using the same set of global warming contrarians; it has also sued the federal government to stop the dissemination of a National Assessment Synthesis Team report extensively documenting the region-by-region

impacts of climate change in the United States.⁵⁹ For its efforts, CEI has received more than \$2 million in funding from ExxonMobil from 1998 through 2005.⁶⁰

The irony of all these efforts is that ExxonMobil, a company that claims it is dedicated to supporting organizations favoring “free market solutions to public policy problems,”⁶¹ is actively propping up discredited studies and misleading information that would otherwise never thrive in the scientific marketplace of ideas. The tactic is seen clearly in ExxonMobil’s backing of a website called Tech Central Station, which portrays itself as a media outlet but is, in fact, part of a corporate PR machine that helps corporations like ExxonMobil to get their message out.

Tech Central Station (which received \$95,000 in funding from ExxonMobil in 2003) is a web-based hybrid of quasi-journalism and lobbying that helps ExxonMobil complete the circle of its disinformation campaign.⁶² The website is nominally “hosted” by James K. Glassman, a former journalist.⁶³ But despite Glassman’s public face, Tech Central Station was published (until it was sold in September 2006) by a public relations firm called the DCI Group, which is a registered ExxonMobil lobbying firm.⁶⁴

A Tech Central Station disclaimer states that the online journal is proud of its corporate sponsors (including ExxonMobil) but that “the opinions expressed on these pages are solely those of the writers and not necessarily of any corporation or other organization.”⁶⁵ In practice, the opposite is true. Although Tech Central Station’s content is dressed up as independent news articles, the DCI Group established the outfit to allow corporate clients and their surrogates to communicate directly to the public. Predictably, Tech Central Station contributors on the global warming issue are the familiar spokespeople from ExxonMobil-

Although Tech Central Station’s content is dressed up as independent news articles, the DCI Group established the outfit to allow corporate clients and their surrogates to communicate directly to the public.

funded organizations, including Sallie Baliunas, Robert Balling, David Legates, Patrick Michaels, Willie Soon, George Taylor, and others.⁶⁶

It is also no surprise that the DCI Group’s own literature boasts that it specializes in what it calls “corporate grassroots campaigns” and “third party support” for corporate clients, both code words for the establishment and use of front organizations to disseminate a company’s message.⁶⁷ The group’s managing partners, Tom Synhorst, Doug Goodyear, and Tim Hyde, each honed their skills in this area over the course of nearly a decade working for the tobacco firm R.J. Reynolds.⁶⁸ Synhorst was a “field coordinator” for R.J. Reynolds, heading up work for the company on issues such as state, local, and workplace smoking bans.⁶⁹ Goodyear worked for a PR firm called Walt Klein and Associates that helped set up a fake grassroots operations on behalf of R.J. Reynolds.⁷⁰ And Hyde served as senior director of public issues at R.J. Reynolds from 1988 to 1997, overseeing all of the company’s PR campaigns.⁷¹

Confounding the matter further is ExxonMobil’s funding of established research institutions that seek to better understand science, policies, and technologies to address global warming. For example, ExxonMobil’s corporate citizen report for 2005 states:

Our climate research is designed to improve scientific understanding, assess policy options, and achieve technological breakthroughs that reduce GHG [green house gas or global warming] emissions in both industrial and developing countries. Major projects have been supported at institutions including the Australian Bureau of Agricultural and Resource Economics, Battelle Pacific Northwest Laboratory, Carnegie Mellon, Charles River Associates, the Hadley Centre for Climate Prediction, International Energy Agency Greenhouse Gas R&D Programme, Lamont Doherty Earth Observatory at Columbia University, Massachusetts Institute of Technology, Princeton, Stanford, The University of Texas, and Yale.⁷³

In its most significant effort of this kind, ExxonMobil has pledged \$100 million over ten years to help underwrite Stanford University's Global Climate and Energy Project.⁷⁵ According to the program's literature, the effort seeks to develop new energy technologies that will permit the development of global energy systems with significantly lower global warming emissions.⁷⁴

The funding of academic research activity has provided the corporation legitimacy, while it actively funds ideological and advocacy organizations to conduct a disinformation campaign.

PROMOTING SCIENTIFIC SPOKESPEOPLE

Inextricably intertwined with ExxonMobil's information laundering strategy of underwriting multiple organizations with overlapping staff is the corporation's promotion of a small handful of scientific spokespeople. Scientists are trusted messengers among the American public. Scientists can and do play an important and legitimate role in educating the public and policymakers about issues that have a scientific component, including global warming. Early on, Exxon (and later

ExxonMobil) sought to support groups that worked with the handful of scientists, such as Frederick Singer (a physicist), John Christy (an atmospheric scientist), and Patrick Michaels, who had persistently voiced doubt about human-caused global warming and its consequences, despite mounting evidence.⁷⁵

However, to pull off the disinformation campaign outlined in the 1998 GCST task force memo, ExxonMobil and its public relations partners recognized they would need to cultivate new scientific spokespeople to create a sense among the public that there was still serious debate among scientists. Toward that end, the memo suggested that the team "identify, recruit and train a team of five independent scientists to participate in media outreach. These will be individuals who do not have a long history of visibility and/or participation in the climate change debate. Rather, this team will consist of new faces who will add their voices to those recognized scientists who already are vocal."⁷⁶

By the late 1990s, the scientific evidence on global warming was so strong that it became difficult to find scientists who disputed the reality of human-caused climate change. But ExxonMobil and its public relations partners persevered. The case of scientists Willie Soon and Sallie Baliunas is illustrative.

Soon and Baliunas are astrophysicists affiliated with the Harvard-Smithsonian Center for Astrophysics who study solar variation (i.e., changes in the amount of energy emitted by the Sun). Solar variation is one of the many factors influencing Earth's climate, although according to the IPCC it is one of the minor influences over the last century.⁷⁷ In the mid-1990s, ExxonMobil-funded groups had already begun to spotlight the work of Soon and Baliunas to raise doubts about the human causes of global warming. To accomplish this, Baliunas was initially commissioned to write

several articles for the Marshall Institute positing that solar activity might be responsible for global warming.⁷⁸ With the Baliunas articles, the Marshall Institute skillfully amplified an issue of minor scientific importance and implied that it was a major driver of recent warming trends.

In 2003, Baliunas and Soon were catapulted into a higher profile debate when they published a controversial review article about global warming in the peer-reviewed scientific literature. Writing in the journal *Climate Research*, the two contrarians reviewed the work of a number of previous scientists and alleged that the twentieth century was not the warmest century of the past 1,000 years and that the climate had not changed significantly over that period.⁷⁹ The Soon-Baliunas paper was trumpeted widely by organizations and individuals funded by ExxonMobil.⁸⁰ It was also seized upon by like-minded politicians, most notably James Inhofe (R-OK), chair (until January 2007) of the Senate Environment and Public Works Committee, who has repeatedly asserted that global warming is a hoax. Inhofe cited the Soon-Baliunas review as proof that natural variability, not human activity, was the “overwhelming factor” influencing climate change.⁸¹

Less widely publicized was the fact that three of the editors of *Climate Research*—including incoming editor-in-chief Hans von Storch—resigned in protest over the Soon-Baliunas paper. Storch stated that he suspected that “some of the skeptics had identified *Climate Research* as a journal where some editors were not as rigorous in the review process as is otherwise common” and described the manuscript as “flawed.”⁸² In addition, thirteen of the scientists cited in the paper published a rebuttal explaining that Soon and Baliunas had seriously misinterpreted their research.⁸³

The National Research Council recently examined the large body of published research on this topic and concluded that, “It can be said with a

Inextricably intertwined with ExxonMobil's information laundering strategy of underwriting multiple organizations with overlapping staff is the corporation's promotion of a small handful of scientific spokespeople.

high level of confidence that global mean surface temperature was higher during the last few decades of the 20th century than during any comparable period during the preceding four centuries...Presently available proxy evidence indicates that temperatures at many, but not all, individual locations were higher in the past 25 years than during any period of comparable length since A.D. 900.”⁸⁴ The brouhaha in the scientific community had little public impact. The echo chamber had already been set in motion reverberating among the mainstream media,⁸⁵ while the correction became merely a footnote buried in the science sections of a few media outlets.

This controversy did not stop Soon and Baliunas from becoming central “new voices” in ExxonMobil's effort to manufacture uncertainty about global warming. Both scientists quickly established relationships with a network of organizations underwritten by the corporation. Over the past several years, for example, Baliunas has been formally affiliated with no fewer than nine organizations receiving funding from ExxonMobil.⁸⁶ Among her other affiliations, she is now a board member and senior scientist at the Marshall Institute, a scientific advisor to the Annapolis Center for Science-Based Public Policy, an advisory board member of the Committee for a Constructive Tomorrow, and a contributing scientist

to the online forum Tech Central Station, all of which are underwritten by ExxonMobil.⁸⁷ (For more, see Appendix B, Table 2.)

Another notable case is that of Frederick Seitz, who has ties to both Big Tobacco and Exxon-Mobil. Seitz is the emeritus chair of the Marshall Institute. He is also a prominent solid state physicist who was president of the National Academy of Sciences (NAS) from 1962 to 1969.⁸⁸

In an example of the tobacco industry's efforts to buy legitimacy, the cigarette company R.J. Reynolds hired Seitz in 1979.⁸⁹ His role was to oversee a tobacco industry-sponsored medical research program in the 1970s and 1980s.⁹⁰ "They didn't want us looking at the health effects of cigarette smoking," Seitz, who is now 95, admitted recently in an article in *Vanity Fair*, but he said he felt no compunction about dispensing the tobacco company's money.⁹¹

While working for R.J. Reynolds, Seitz oversaw the funding of tens of millions of dollars worth of research.⁹² Most of this research was legitimate. For instance, his team looked at the way stress, genetics, and lifestyle issues can contribute to disease.⁹³ But the program Seitz oversaw served an important dual purpose for R.J. Reynolds. It allowed the company to tout the fact that it was funding health research (even if it specifically proscribed research on the health effects of smoking) and it helped generate a steady collection of ideas and hypotheses that provided "red herrings" the company could use to disingenuously suggest that factors other than tobacco might be causing smokers' cancers and heart disease.

Aside from giving the tobacco companies' disinformation campaign an aura of scientific credibility, Seitz is also notable because he has returned from retirement to play a prominent role as a global warming contrarian involved in organi-

zations funded by ExxonMobil. Consider, for instance, one of Seitz's most controversial efforts. In 1998, he wrote and circulated a letter asking scientists to sign a petition from a virtually unheard-of group called the Oregon Institute of Science and Medicine calling upon the U.S. government to reject the Kyoto Protocol.⁹⁴ Seitz signed the letter identifying himself as a former NAS president. He also enclosed with his letter a report co-authored by a team including Soon and Baliunas asserting that carbon dioxide emissions pose no warming threat.⁹⁵ The report was not peer reviewed. But it was formatted to look like an article from *The Proceedings of the National Academy of Sciences* (PNAS), a leading scientific journal.

The petition's organizers publicly claimed that the effort had attracted the signatures of some 17,000 scientists. But it was soon discovered that the list contained few credentialed climate scientists. For example, the list was riddled with the names of numerous fictional characters.⁹⁶ Likewise, after investigating a random sample of the small number of signers who claimed to have a Ph.D. in a climate-related field, *Scientific American* estimated that approximately one percent of the petition signatories might actually have a Ph.D. in a field related to climate science.⁹⁷ In a highly unusual response, NAS issued a statement disavowing Seitz's petition and disassociating the academy from the PNAS-formatted paper.⁹⁸ None of these facts, however, have stopped organizations, including those funded by ExxonMobil, from touting the petition as evidence of widespread disagreement over the issue of global warming. For instance, in the spring of 2006, the discredited petition surfaced again when it was cited in a letter to California legislators by a group calling itself "Doctors for Disaster Preparedness," a project of the Oregon Institute of Science and Medicine.

SHIFTING THE FOCUS OF THE DEBATE

One prominent component of ExxonMobil's disinformation campaign on global warming is the almost unanimous call for "sound science" by the organizations it funds.⁹⁹ Like the Bush administration's "Healthy Forests" program, which masks a plan to augment logging, the rallying call for "sound science" by ExxonMobil-funded organizations is a clever and manipulative cover. It shifts the focus of the debate away from ExxonMobil's irresponsible behavior regarding global warming toward a positive concept of "sound science." By keeping the discussion focused on refining scientific understanding, ExxonMobil helps delay action to reduce heat-trapping emissions from its company and products indefinitely. For example, like the company itself, ExxonMobil-funded organizations routinely contend, despite all the solid evidence to the contrary, that scientists don't know enough about global warming to justify substantial reductions in heat-trapping emissions. As ExxonMobil explains prominently on the company's website:

While assessments such as those of the IPCC [Intergovernmental Panel on Climate Change] have expressed growing confidence that recent warming can be attributed to increases in greenhouse gases, these conclusions rely on expert judgment rather than objective, reproducible statistical methods. Taken together, gaps in the scientific basis for theoretical climate models and the interplay of significant natural variability make it very difficult to determine objectively the extent to which recent climate changes might be the result of human actions.¹⁰⁰

In contrast, 11 of the world's major national scientific academies issued a joint statement in 2005 that declared, "The scientific understanding of climate change is now sufficiently clear to

The rallying call for "sound science" by ExxonMobil-funded organizations is a clever and manipulative cover.

justify nations taking prompt action. It is vital that all nations identify cost-effective steps that they can take now to contribute to substantial and long-term reduction in net global greenhouse gas emissions."¹⁰¹

There is no denying that the tactic of demanding "certainty" in every aspect of our scientific understanding of global warming is a rhetorically effective one. If manufactured uncertainty and governmental inaction is the goal, science will arguably never be "sound enough," or 100 percent certain, to justify action to protect public health or the environment.

Again, the tobacco industry paved the way. The calculated call for "sound science" was successfully used by tobacco firms as an integral part of a tobacco company's pioneering "information laundering" scheme. As we now know from internal tobacco industry documents, a campaign to demand "sound science" was a key part of a strategy by the cigarette manufacturer Philip Morris to create uncertainty about the scientific evidence linking disease to "second-hand" tobacco smoke, known in the industry as "environmental tobacco smoke" or ETS.¹⁰² Toward this end, in 1993, Philip Morris covertly created a front organization called "The Advancement of Sound Science Coalition" or TASSC.¹⁰³

In setting up the organization, Philip Morris took every precaution. The company opted not to use its regular public relations firm, Burson-Marsteller, choosing instead APCO Associates, a subsidiary of the international advertising and PR

firm of GCI/Grey Associates. For a sizable retainer, APCO agreed to handle every aspect of the front organization.

As part of the plan, APCO focused on expanding TASSC's ersatz "membership" and raising small amounts of additional outside money in order to conceal Philip Morris's role as its founder and exclusive underwriter. A 1993 letter from APCO on the eve of TASSC's public unveiling explains that, despite the appearance of an independent nonprofit group, APCO would "oversee day-to-day administrative responsibility" for running the organization and would draft "boilerplate speeches, press releases and op-eds to be utilized by TASSC field representatives" to further Philip Morris' goals.¹⁰⁴

The public relations firm introduced TASSC to the public through a decentralized launch outside the large markets of Washington, DC, and New York in order to "avoid cynical reporters from major media" who might discover the truth that the organization was nothing more than a front group created by Philip Morris. Top Philip Morris media managers compiled lists of reporters they deemed most sympathetic to TASSC's message.¹⁰⁵ But they left all press relations to APCO so as to, in the words of one internal memo, "remove any possible link to PM."¹⁰⁶

The TASSC campaign was a particularly obvious example of information laundering. But it also represented an important messaging strategy by using the concept of "sound science" to attach Philip Morris's disinformation about second-hand smoke to a host of other antiregulation battles. Philip Morris sought to foil any effort by the Environmental Protection Agency (EPA) to promulgate regulations to protect the public from the dangers of ETS. But the company realized that it could build more support for its discredited position that ETS was safe by raising the broader "sound science" banner. As a result, it took stands

against government efforts to set safety regulations on everything from asbestos to radon. "The credibility of EPA is defeatable," one Philip Morris strategy document explained, "but not on the basis of ETS alone. It must be part of a large mosaic that concentrates all of the EPA's enemies against it at one time."¹⁰⁷

The important point in reviewing this history is that it is not a coincidence that ExxonMobil and its surrogates have adopted the mantle of "sound science." In so doing, the company is simply emulating a proven corporate strategy for successfully deflecting attention when one's cause lacks credible scientific evidence. From the start in 1993, in TASSC's search for other antiregulation efforts to provide political cover, the organization actively welcomed global warming contrarians like Frederick Seitz, Fred Singer, and Patrick Michaels to its scientific board of advisors. Thanks to the online archive of tobacco documents, we know that in 1994, when Philip Morris developed plans with APCO to launch a TASSC-like group in Europe, "global warming" was listed first among suggested topics with which the tobacco firm's cynical "sound science" campaign could profitably ally itself.¹⁰⁸

Given these historical connections, it is disturbing that ExxonMobil would continue to associate with some of the very same TASSC personnel who had overseen such a blatant and shameful disinformation campaign for Big Tobacco. The most glaring of ExxonMobil's associations in this regard is with Steven Milloy, the former executive director of TASSC. Milloy's involvement with ExxonMobil is more than casual. He served as a member of the small 1998 Global Climate Science Team task force that mapped out ExxonMobil's disinformation strategy on global warming.

Milloy officially closed TASSC's offices in 1998 as evidence of its role as a front organization

began to surface in the discovery process of litigation against Big Tobacco. Thanks in part to ExxonMobil, however, the “sound science” disinformation campaign continued unabated. Resuscitating TASSC under the slightly altered name The Advancement of Sound Science Center (rather than Coalition), Milloy continues to operate out of his home in Maryland. Between 2000 and 2004, ExxonMobil gave \$50,000 to Milloy’s Advancement of Sound Science Center, and another \$60,000 to an organization called the Free Enterprise Education Institute (a.k.a. Free Enterprise Action Institute), which is also registered to Milloy’s home address.¹⁰⁹ According to its 2004 tax return, this group was founded to “educate the public about the American system of free enterprise,” employed no staff, and incurred approximately \$48,000 in expenses categorized as “professional services.”¹¹⁰

In addition to serving as a columnist on *FoxNews.com*, Milloy is also a contributor to Tech Central Station and an adjunct scholar at the Competitive Enterprise Institute, both funded by ExxonMobil.

The irony of the involvement of tobacco disinformation veterans like Milloy in the current campaign against global warming science is not lost on close watchers. Representative Henry Waxman (D-CA), for instance, chaired the 1994 hearings where tobacco executives unanimously declared under oath that cigarettes were not addictive. As Waxman marveled recently about the vocal contrarians like Milloy on global warming science: “Not only are we seeing the same tactics the tobacco industry used, we’re seeing some of the same groups.”¹¹¹ Of course, unlike the tobacco companies, ExxonMobil has yet to receive a court order to force to light internal documents pertaining to its climate change activities. Nonetheless, even absent this information, the case could hardly be clearer: ExxonMobil is waging a calcu-

Given these historical connections, it is disturbing that ExxonMobil would continue to associate with some of the very same TASSC personnel who had overseen such a blatant and shameful disinformation campaign for Big Tobacco.

lated and familiar disinformation campaign to mislead the public and forestall government action on global warming.

BUYING GOVERNMENT ACCESS

Tobacco companies have historically been very successful at cultivating close ties in government and hiring former government officials to lobby on their behalf. This list includes, among others, Craig Fuller, who served in the Reagan and Bush administrations, and former GOP chair Haley Barbour as well as former Senate majority leader George Mitchell, who was recruited in 1997 by the tobacco industry firm Verner, Lipfert, Bernhard, McPherson, and Hand to help negotiate a settlement.¹¹²

When it comes to exerting influence over government policy, however, ExxonMobil, in its global warming disinformation campaign, may have even surpassed the tobacco industry it so clearly emulates. During the 2000 to 2006 election cycles, ExxonMobil’s PAC and individuals affiliated with the company gave more than \$4 million to federal candidates and parties.¹¹³ Shortly after President Bush’s inauguration, ExxonMobil, like other large corporate backers in the energy sector, participated in Vice President Dick Cheney’s “Energy Task Force” to set the

administration's goals for a national energy plan.¹¹⁴ ExxonMobil successfully urged the Bush administration to renege on the commitments to the Kyoto Protocol made by previous administrations.¹¹⁵ Paula Dobriansky, who currently serves as under-secretary for global affairs in the State Department and who has headed U.S. delegations negotiating follow-ons to the Kyoto Protocol in Buenos Aires and Montreal, explicitly said as much in 2001. Just months after she had been confirmed by the U.S. Senate, Dobriansky met with ExxonMobil lobbyist Randy Randol and other members of the Global Climate Coalition. Her prepared talking points, uncovered through a Freedom of Information Act request, reveal that Dobriansky thanked the group for their input on global warming policy. One of her notes reads: "POTUS [the President of the United States] rejected Kyoto, in part, based on input from you."¹¹⁶

A Freedom of Information Act request also revealed that in February 2001, immediately following the release of the authoritative 2001 report on global warming from the Intergovernmental Panel on Climate Change (IPCC),¹¹⁷ ExxonMobil successfully lobbied the Bush administration to try to oust the chair of the IPCC. In a memo sent to the White House, Randol complained that Robert Watson, who had chaired the IPCC since 1996, had been "hand-picked by Al Gore."¹¹⁸ Watson is an internationally respected scientist who has served as the director of the science division at NASA and as chief scientist at the World Bank. His work at the IPCC had met with widespread international approval and acclaim. Nonetheless, the ExxonMobil memo urged: "Can Watson be replaced now at the request of the U.S.?"¹¹⁹ At its next opportunity, the Bush administration's State Department refused to re-nominate Dr. Watson for a second five-year term as head of the IPCC, instead backing an Indian engineer-economist for the

post. In April 2002, lacking U.S. support, Dr. Watson lost his position as chair.¹²⁰ The Bush administration's move outraged many in the scientific community who saw it as a blatantly political attempt to undermine an international scientific effort.¹²¹ At the time, however, ExxonMobil's behind-the-scenes role in the incident remained secret.

Meanwhile, in an equally consequential recommendation, the 2001 ExxonMobil memo suggested that President Bush's climate team hire Harlan Watson (no relation), a staff member on the House Science Committee who had served as a climate negotiator at the 1992 Rio Earth Summit for the administration of George Bush Senior and had worked closely with members of Congress who opposed action on global warming.¹²² Shortly thereafter, the Bush administration announced Harlan Watson's appointment as its chief climate negotiator. He has steadfastly opposed any U.S. engagement in the Kyoto process.¹²³

As successful as ExxonMobil's efforts to lobby the Bush administration have been, perhaps even more striking is the way the company's disinformation campaign on global warming science has managed to permeate the highest echelons of the federal government. Between 2001 and 2005, the nerve center for much of this censorship and control resided in the office of Philip Cooney, who served during this time as chief of staff in the White House Council on Environmental Quality. Thanks to a whistle-blowing researcher named Rick Piltz in the U.S. government's interagency Climate Change Science Program who resigned in protest over the practice, we now know that Cooney spent a significant amount of time censoring and distorting government reports so as to exaggerate scientific uncertainty about global warming.¹²⁴

Cooney, a lawyer with an undergraduate degree in economics, had no scientific credentials

that might qualify him to rewrite the findings of top government scientists. Rather, before coming to the Bush administration in 2001, Cooney had spent roughly a decade as a lawyer for the American Petroleum Institute, the oil industry lobby that worked with ExxonMobil in 1998 to develop a global warming disinformation campaign. In that capacity, Cooney served as a "climate team leader" seeking to prevent the U.S. government from entering into any kind of international agreement or enacting any domestic legislation that might lead to mandatory limits on global warming emissions.¹²⁵ After joining the White House staff in 2001, Cooney furthered much the same work agenda from the top ranks of the Bush administration.

During his tenure, Cooney altered and compromised the accuracy of numerous official scientific reports on climate change issued by agencies of the federal government.¹²⁶ For instance, in 2002, as U.S. government scientists struggled to finalize the Climate Change Science Program's strategic plan, Cooney dramatically altered the document, editing it heavily and repeatedly inserting qualifying words to create an unwarranted aura of scientific uncertainty about global warming and its implications.¹²⁷ (See Appendix C for sample edit.)

As Rick Piltz explained in his resignation letter when he exposed Cooney's efforts, the government agencies had adapted to the environment created within the Bush administration by "engaging in a kind of anticipatory self-censorship on this and various other matters seen as politically sensitive under this administration." Even beyond the outright suppression and distortion by Cooney and others, according to Piltz, this self-censorship on the part of career professionals marked one of the most insidious and "deleterious influences of the administration" on climate research efforts within the government.¹²⁸

As successful as ExxonMobil's efforts to lobby the Bush administration have been, perhaps even more striking is the way the company's disinformation campaign on global warming science has managed to permeate the highest echelons of the federal government.

On June 10, 2005, Cooney resigned, two days after the *New York Times* first reported Piltz's revelations. Despite the suspicious timing, the White House claimed that Cooney's resignation was unrelated to Piltz's disclosures.¹²⁹ But it was not surprising when Cooney announced, one week after he left the White House, that he was accepting a high-ranking public relations position at ExxonMobil.¹³⁰

One of the most damning incidents involving Cooney also illustrates the extent of ExxonMobil's influence over the Bush administration policy on global warming. In May 2002, the administration issued the "U.S. Climate Action Report," which the U.S. State Department was obligated by treaty to file with the United Nations. Major elements of the report were based on an in-depth, peer-reviewed government research report analyzing the potential effects of global warming in the United States. That report, titled "U.S. National Assessment of the Potential Consequences of Climate Variability and Change,"¹³¹ predates the Bush administration and had already been attacked by ExxonMobil.¹³² The report generated widespread headlines such as one in the *New York Times* proclaiming: "Climate Changing, US Says in Report."¹³³

Not surprisingly, ExxonMobil vociferously objected to the conclusion of the multiagency “Climate Action Report” that climate change posed a significant risk and was caused by human-made emissions.¹³⁴ Concerned about the matter, Cooney contacted Myron Ebell at the Exxon-Mobil-funded Competitive Enterprise Institute. “Thanks for calling and asking for our help,” Ebell responded in a June 3, 2002, email to Cooney that surfaced as a result of a Freedom of Information Act request.¹³⁵ Ebell urged that the President distance himself from the report. Within days, President Bush did exactly that, denigrating the report in question as having been “put out by the bureaucracy.”¹³⁶

In the June 3 email, Ebell explicitly suggests the ouster of then-EPA head Christine Todd Whitman. “It seems to me that the folks at the EPA are the obvious fall guys and we would only hope that the fall guy (or gal) should be as high up as possible,” Ebell wrote. “Perhaps tomorrow we will call for Whitman to be fired.”¹³⁷ Sure enough, Whitman would last for less than a year in her post, resigning in May 2003.¹³⁸ Finally, Ebell pledged he would do what he could to respond to the White House’s request to “clean up this mess.”¹³⁹

A major piece of Ebell’s “clean-up” effort presumably came on August 6, 2003, when the Competitive Enterprise Institute filed the second of two lawsuits calling for the Bush administration to invalidate the National Assessment (a peer-reviewed synthesis report upon which the U.S. Climate Action Report was based). The CEI lawsuit called for it to be withdrawn because it was not based upon “sound science.”¹⁴⁰

Given the close, conspiratorial communication between Ebell and Cooney that had come to light, the lawsuit prompted the attorneys general of Maine and Connecticut to call upon the U.S. Justice Department to investigate the matter.¹⁴¹

However, the Bush administration Justice Department, then led by John Ashcroft, refused to launch such an investigation, despite the fact that the Maine and Connecticut attorneys general stated forcefully that the evidence suggested that Cooney had conspired with Ebell to cause the Competitive Enterprise Institute to sue the federal government. As Maine Attorney General Steven Rowe noted: “The idea that the Bush administration may have invited a lawsuit from a special interest group in order to undermine the federal government’s own work under an international treaty is very troubling.”¹⁴²

A key piece of evidence, unnoticed at the time, strongly suggests just how the scheme fit together. In 2002, in a move virtually unprecedented in its corporate giving program, Exxon-Mobil offered an additional \$60,000 in support for the Competitive Enterprise Institute — specifically earmarked to cover the organization’s unspecified “legal activities.”¹⁴³

In addition to a high level of administration access, ExxonMobil has cultivated close relationships with members of Congress. In July 2005, ExxonMobil’s generous campaign contributions paid off when Congress passed the Energy Policy Act of 2005. This bill, modeled on the President’s 2001 energy plan, provides more than \$7.4 billion in tax breaks and subsidies to the oil and gas industry over 10 years and excludes any provisions that would mandate reductions in U.S. global warming emissions.¹⁴⁴

Joe Barton (R-TX), chair of the House Energy and Commerce Committee from 2004 through 2006 and the lead author of the 2005 energy bill, has received more than \$1 million from the oil and gas industry over the course of his career, including \$22,000 in PAC contributions from ExxonMobil between 2000 and 2006.¹⁴⁵ In addition to shepherding through the massive oil and gas subsidies in that bill, Representative Barton

has played a key role in elevating misleading information and delaying congressional action on global warming. Before he became chair of the full committee in 2004, Barton chaired the Energy and Air Quality Subcommittee. In that capacity, he stated at a March 2001 hearing that as long as he was the subcommittee chair, regulation of global warming emissions would be “off the table indefinitely.” As Barton put it: “I don’t want there to be any uncertainty about that.”¹⁴⁶ In his capacity as chair of the full committee, Barton has held true to his word, holding only two climate-related hearings, both aimed at attacking reputable climate scientists.¹⁴⁷

In February 2005, the American Petroleum Institute—of which ExxonMobil is a powerful member¹⁴⁸—contacted members of Congress to raise questions about aspects of two climate studies from 1998 and 1999.¹⁴⁹ In June 2005, Representative Barton followed the oil industry’s lead, sending letters to three climate scientists—Drs. Michael Mann, Raymond Bradley, and Malcolm Hughes—as well as the Intergovernmental Panel on Climate Change and the National Science Foundation, questioning many aspects of these studies. The letter to the scientists requested a vast amount of data and information related to their research over the past 15 years. While Rep. Barton’s request specifically targeted the results of the so-called “hockey stick” studies (a 2,000-year record of Northern Hemisphere temperature), it also demanded a significant amount of data irrelevant to that set of peer-reviewed studies.

While a spokesman for the representative claims he was only “seeking scientific truth,”¹⁵⁰ Barton seems to willfully misunderstand that the findings of the study in question are only one among a large body of evidence that support the scientific consensus that global warming is underway and that human activity is contributing significantly over the past several decades. Rather

“The idea that the Bush administration may have invited a lawsuit from a special interest group (ExxonMobil-funded CEI) in order to undermine the federal government’s own work under an international treaty is very troubling.”

— STEVEN ROWE,
ATTORNEY GENERAL, MAINE

than basing his inquiry on a careful review of peer-reviewed scientific literature or documents from leading scientific bodies like the National Academy of Sciences, Barton cited a *Wall Street Journal* editorial as his primary source of global warming information.

The scientific community has weighed in strongly. The National Academy of Sciences and the American Association for the Advancement of Science—which rarely take stands on Congressional investigations—sent letters of concern to Barton, as did twenty leading climate scientists. Representative Sherwood Boehlert (R-NY), chair of the House Science Committee, and Representative Waxman (D-CA), then ranking member on the House Government Reform Committee, both submitted letters protesting the tone and content of this investigation.

Despite this response, Representative Barton held two hearings in July 2006, both aimed at attacking the Mann study. Not surprisingly, the witnesses invited to testify at the second hearing included John Christy, who, as detailed earlier, is one of the scientists affiliated with ExxonMobil funded organizations—the Competitive Enterprise Institute and the George C. Marshall Insti-

tute—and Stephen McIntyre, a mining executive also affiliated with the Marshall Institute.

Meanwhile, the most vocal opponent to climate action in the Senate is James Inhofe (R-OK), chair—until January 2007—of the Environment and Public Works Committee. He adamantly denies the reality of global warming and has prevented consideration of climate bills by his committee during his tenure as chair from 2003 to 2006. In September 2005, he went so far as to invite Michael Crichton, a science fiction writer, to testify at a hearing on climate science and policy. Despite Crichton's lack of expertise, he attempted to undermine peer-reviewed climate science in his testimony. Inhofe was also a coplaintiff in the first Competitive Enterprise Institute lawsuit, filed in 2000, which attempted to bar the distribution or use of the National Assessment. Senator Inhofe has received a total of

\$847,123 from ExxonMobil and others in the oil and gas industry over the course of his career.¹⁵¹ Like Big Tobacco before it, ExxonMobil has been enormously successful at influencing the current administration and key members of Congress. From successfully recommending the appointment of key personnel in the Bush administration, to coordinating its disinformation tactics on global warming with high-ranking Bush administration personnel, to funding climate change contrarians in Congress, ExxonMobil and its proxies have exerted extraordinary influence over the policies of the U.S. government during the Bush administration. The cozy relationship ExxonMobil enjoys with government officials has enabled the corporation to work effectively behind the scenes to block federal policies and shape government communications on global warming.

PUTTING THE BRAKES ON EXXONMOBIL'S DISINFORMATION CAMPAIGN

For more than two decades, ExxonMobil scientists have carefully studied and worked to increase understanding of the issue of global climate change.

—EXXONMOBIL WEBSITE, 2006¹⁵²

In September 2006, the Royal Society, Britain's premier scientific academy, sent a letter to ExxonMobil urging the company to stop funding the dozens of groups spreading disinformation on global warming and also strongly criticized the company's "inaccurate and misleading" public statements on global warming.¹⁵³ ExxonMobil responded by defending the statement in its 2005 Corporate Citizenship Report that scientific uncertainties make it "very difficult to determine objectively the extent to which recent climate changes might be the result of human actions."¹⁵⁴ However, ExxonMobil also stated that it has stopped funding the Competitive Enterprise Institute, although it is unclear whether its support is discontinued permanently. Either way, as of this publication date, this commitment leaves intact the rest of ExxonMobil's carefully constructed echo chamber of climate disinformation.

The unprecedented letter from the British Royal Society demonstrates the level of frustration among scientists about ExxonMobil's efforts to manufacture uncertainty about global warming. ExxonMobil's dismissive response shows that more pressure is needed to achieve a real change in the company's activities.

The time is ripe to call for a dramatic shift in ExxonMobil's stance on global warming. After nearly 13 years, Lee Raymond, an outspoken enemy of environmental regulation, stepped down at the end of 2005 and the company promoted

Rex Tillerson to the position of CEO. While Tillerson has been less confrontational than his predecessor on the global warming issue, he has yet to make real commitments on global warming. He has an opportunity to implement key changes in ExxonMobil's climate change activities and should be encouraged to do so through a wide variety of approaches: congressional action, shareholder engagement, media accountability, and consumer action.

CONGRESSIONAL ACTION

Elected officials can and should assert their independence from ExxonMobil in several ways.

Oversight

Lawmakers should conduct oversight of ExxonMobil's disinformation campaign as well as its effort to delay action on global warming. Congressional investigations played a key role in revealing the extent of Big Tobacco's work to hide the public health impacts of smoking. By requiring ExxonMobil executives to testify before Congress and by obtaining internal documents through subpoena, congressional investigators could expose additional information about ExxonMobil's strategic disinformation campaign on global warming.

Campaign Contributions

Lawmakers and candidates should reject campaign

contributions from ExxonMobil and its executives until the disinformation campaign ceases and the corporation ends its opposition to mandatory regulation of global warming emissions from fossil fuels.

Policy Action

The true signal that ExxonMobil's disinformation campaign has been defeated will come when Congress passes policies that ensure global warming emission reductions. Congress should bring stakeholders—including ExxonMobil—to the table, as lawmakers develop and enact a set of policies to achieve mandatory global warming emission reductions such as improved energy efficiency standards for appliances and vehicles, renewable electricity standards, and economywide caps on global warming emissions. In addition, Congress should shift government energy support and incentives away from conventional coal, oil, and gas and toward clean, renewable energy sources. Lawmakers should also encourage the integration of low carbon fuels into the supply chain by developing policies to ensure that more gas stations sell biofuels such as E85 and that flexible fuel vehicles comprise a greater percentage of the vehicle fleet.

These actions will not only reduce global warming emissions, but will help address national security concerns about our growing oil dependence, reduce demand pressures that are driving up natural gas prices, save energy consumers billions of dollars, and create hundreds of thousands of new jobs producing clean energy and vehicle technologies.¹⁵⁵

Through these and other efforts, our elected representatives can bring ExxonMobil's campaign of disinformation on global warming to an end.

SHAREHOLDER ENGAGEMENT

Investors will pay a steep price if ExxonMobil refuses to prepare to do business in a world where global warming emission reductions are required,

as they most certainly will be over the next several years. Investors can help shift ExxonMobil's position on global warming and clean energy solutions. ExxonMobil shareholders can join major institutional investors in calling on the company to begin to invest in clean energy options that would protect the long-term health of the corporation and the planet.¹⁵⁶

In 2006, shareholders offered a resolution calling on the ExxonMobil board to establish policies designed to achieve the long-term goal of making ExxonMobil the recognized leader in low-carbon emissions in both the company's production and products. In May 2006, 17 leading U.S. pension funds and other institutional investors holding \$6.75 billion in ExxonMobil shares asked for a face-to-face meeting with members of the ExxonMobil board of directors. This request stemmed from growing concerns in the financial world that ExxonMobil is "a company that fails to acknowledge the potential for climate change to have a profound impact on global energy markets, and which lags far behind its competitors in developing a strategy to plan for and manage these impacts," as articulated in a letter to ExxonMobil from investors in May of 2006.¹⁵⁷ Connecticut State Treasurer Denise Nappier elaborated on the group's concerns, stating that "in effect, ExxonMobil is making a massive bet—with shareholders' money—that the world's addiction to oil will not abate for decades, even as its competitors are taking significant steps to prepare for a rapidly changing energy environment. As investors, we are concerned that ExxonMobil is not sufficiently preparing for 'tomorrow's energy' and runs the risk of lagging significantly behind its rivals."¹⁵⁸

ExxonMobil's competition is indeed moving forward in renewable energy research and deployment. In 2005, BP launched BP Alternative Energy, a project that plans to invest \$8 billion

over the next ten years to advance clean energy technologies such as solar, wind, and bioenergy.¹⁵⁹ Similarly, Shell has invested \$1 billion in alternative energy development since 2000. It is a major biofuels distributor, a developer of the next generation of solar technology, and it has 350 MW of operational wind capacity.¹⁶⁰ While these companies could do more to address global warming, their actions represent an important step. Investors can encourage ExxonMobil to convert funds currently used for the disinformation campaign to add to the recent research and development investments ExxonMobil contributes to institutions devoted to legitimate climate science and solutions research.

Shareholders should also support resolutions calling on ExxonMobil to disclose the physical, financial, and competitive risks that global warming poses to the corporation. For example, the 2005 hurricane season suggests that the country's oil refining infrastructure is vulnerable to an increase in the severity of extreme weather events that scientists project are likely to occur with continued warming. ExxonMobil's total natural gas production decreased in 2005 partly as a result of the impacts of Hurricanes Katrina and Rita in the Gulf of Mexico.¹⁶¹

Individuals who do not have a direct investment in ExxonMobil may own pension funds and mutual funds invested in ExxonMobil. These investors can insist that their fund managers assess the global warming risk of ExxonMobil investments and support global warming shareholder resolutions targeting ExxonMobil. While institutional investors increasingly support these resolutions, mutual fund companies are lagging behind and putting investors at risk. None of the top 100 U.S. mutual funds support climate change resolutions. For example, the three largest mutual fund companies: American Funds, Fidelity, and Vanguard all have major holdings in ExxonMobil,

Investors will pay a steep price

if ExxonMobil refuses to prepare to do business in a world where global warming emission reductions are required.

but have not yet committed to support future climate resolutions. More pressure from investors is needed to influence these and other mutual fund companies.

MEDIA ACCOUNTABILITY

Too often, journalists' inclination to provide political "balance" leads to inaccurate media reporting on scientific issues. Far from making news stories more balanced, quoting ExxonMobil-funded groups and spokespeople misleads the public by downplaying the strength of the scientific consensus on global warming and the urgency of the problem. Citizens must respond whenever the media provides a soapbox for these ExxonMobil-sponsored spokespeople, especially when the story fails to reveal their financial ties to ExxonMobil or those of their organizations.

Toward this end, citizens can send letters to the editor highlighting the financial ties that quoted "experts" have to ExxonMobil or ExxonMobil-funded organizations. They can also encourage individual reporters and media outlets to report science accurately. Well-established scientific information should be reported as such, and members of the press should distinguish clearly between those views of their sources that are supported in the peer-reviewed scientific literature versus those that have only been propped up in the ExxonMobil-financed echo chamber.

CONSUMER ACTION

Finally, consumers can exercise their influence in

the marketplace by refusing to purchase Exxon-Mobil's gasoline and other products until the company ends its disinformation campaign. ExposeExxon, a collaborative campaign led by many of the nation's largest environmental and public interest advocacy organizations, has already gathered boycott pledges from more than 500,000 consumers who are calling on the company to change course on global warming.¹⁴² In particular, consumers should demand that ExxonMobil stop funding groups that disseminate discredited information on global warming and require the organizations it funds to disclose their funding sources and to subject their published, science-based information to peer review.

It is time for ExxonMobil customers to hold the corporation accountable for its environmental rhetoric. For example, ExxonMobil's 2005 Corporate Citizen Report states, "We seek to drive incidents with environmental impact to zero, and to operate in a manner that is not harmful to the environment."¹⁴³ Even while making such pronouncements, ExxonMobil has, as this report demonstrates, been engaged in a disinformation campaign to confuse the public on global warming. At the same time, heat-trapping emissions from its operations continue to grow.

It is critical that ExxonMobil impose strict standards on the groups that receive funding for climate-related activities. Not only should it cease funding groups who disseminate discredited information on global warming, it should require funded organizations to acknowledge Exxon-Mobil support for their work. An incident at a September 2005 National Press Club briefing indicates the importance of such disclosure. At the briefing, Indur Goklany, an analyst at the ExxonMobil-funded National Center for Policy Analysis, presented "Living with Global Warming," a paper that favors adapting to global warm-

ing over curbing the problem with emission reduction. Neither the paper nor Goklany advertised the organization's ties to ExxonMobil, which would have remained undisclosed had not an audience member asked Goklany about the organization's \$315,000 in funding from Exxon-Mobil between 1998 and 2004. Requiring individuals like Goklany to disclose this information will help the public more effectively evaluate the independence of their statements.

In June 2005, U.S. State department documents revealed that the White House considered ExxonMobil "among the companies most actively and prominently opposed to binding approaches [like Kyoto] to cut greenhouse gas emissions."¹⁴⁴ Customers should press ExxonMobil to end its opposition to federal policies that would ensure reductions in U.S. global warming emissions. Moreover, it should be urged to set a goal to reduce the total emissions from its products and operations and demonstrate steady progress toward that goal. Consumers should also call on ExxonMobil to prepare to comply with imminent national and international climate policies by transitioning to cleaner renewable fuels and investing in other clean energy technologies. In particular, Exxon-Mobil should develop a plan to increase production of low-carbon cellulosic ethanol and make it available at its fueling stations.

To make their actions visible to the company, consumers should relay their demands directly to Rex Tillerson at ExxonMobil's corporate headquarters (5959 Las Colinas Boulevard, Irving, Texas 75039-2298; phone number 972-444-1000).

To access web tools focused on holding Exxon-Mobil accountable for its activities on global warming, visit www.ExposeExxon.com. The site includes sample letters to Rex Tillerson and members of Congress.

Appendix A

THE SCIENTIFIC CONSENSUS ON GLOBAL WARMING

The scientific understanding of climate change is now sufficiently clear to justify nations taking prompt action. It is vital that all nations identify cost-effective steps that they can take now, to contribute to substantial and long-term reduction in net global greenhouse gas emissions.

—JOINT STATEMENT BY THE SCIENCE ACADEMIES
OF 11 NATIONS, JUNE 7, 2005

Ever since Svante Arrhenius published “On the influence of carbonic acid in the air upon the temperature of the ground” in 1896, scientists have appreciated the fundamental principle regarding heat-trapping emissions and their influence on Earth’s temperature. The burning of fossil fuels in power plants and vehicles releases heat-trapping emissions, principally carbon dioxide, which accumulates in the atmosphere. These emissions function much like a blanket, trapping heat and warming the planet. The concentration of carbon dioxide in the atmosphere has already increased nearly 40 percent since the dawn of the industrial era and average global temperature is around 1 degree Fahrenheit higher than a century ago.

If global warming emissions grow unabated, climate scientists expect mean temperatures around the world will rise dramatically this century.¹⁶⁵ Without concerted human intervention to try to correct or at least stabilize this trend, researchers have identified a host of disruptive and possibly irreversible consequences, including coastal flooding caused by rising sea levels, an increase in powerful tropical storms, extreme heat waves in summer, and reduced productivity of farms, forests, and fisheries worldwide.¹⁶⁶

This unprecedented rate of recent warming is caused primarily by human activity. That, in a nutshell, is the overwhelming scientific consensus about global climate change, ever since the publication of a landmark review in 2001 by an international panel of leading climate experts under the auspices of the United Nations, called the Intergovernmental Panel on Climate Change (IPCC).¹⁶⁷ The 2001 IPCC assessment drew upon more than 1,200 scientists and approximately 120 countries. It quickly became a standard reference and solidified the scientific consensus about global warming internationally. Released just days after the inauguration of President George W. Bush, the IPCC report laid out the mounting and consistent scientific evidence of global warming. In May 2001, the White House officially asked the U.S. National Academy of Sciences (NAS) to conduct its own review of the IPCC assessment.¹⁶⁸ Within a month, in June 2001, the NAS confirmed the conclusions of the IPCC that global warming is occurring and that it is caused primarily by human activity.¹⁶⁹ More recently, 11 of the world’s major national scientific academies including those from the leading industrialized nations issued a joint statement that declared,

"The scientific understanding of climate change is now sufficiently clear to justify nations taking prompt action. It is vital that all nations identify cost-effective steps that they can take now to contribute to substantial and long-term reduction in net global greenhouse gas emissions."¹⁷⁰

One of the reasons scientists consider the evidence so compelling is that it draws on such a broad range of sources. In addition to climate specialists who use sophisticated computer models to study climatic trends, researchers from an array of disciplines, including atmospheric scientists, paleoclimatologists, oceanographers, meteorologists, geologists, chemists, biologists, physicists, and ecologists have all corroborated global warming by studying everything from animal migration to the melting of glaciers. Evidence of a dramatic global warming trend has been found in ice cores pulled from the both polar regions, satellite imagery of the shrinking polar ice masses, tree rings, ocean temperature monitoring, and so on.

Ralph Cicerone, President of the National Academy of Sciences stated during a U.S. House of Representatives hearing for the Committee on Energy and Commerce on July 27, 2006: "I think we understand the mechanisms of CO₂ and climate better than we do of what causes lung

cancer...In fact, it is fair to say that global warming may be the most carefully and fully studied scientific topic in human history."¹⁷¹ Similarly, Donald Kennedy, the editor of *Science*, has noted, "Consensus as strong as the one that has developed around [global warming] is rare in science."¹⁷²

To get a sense of just how powerful the scientific consensus about global warming is, consider this: in a December 2004 article published in the journal *Science*, Naomi Oreskes, a historian of science at the University of California, San Diego, reviewed the peer-reviewed scientific literature for papers on global climate change published between 1993 and 2003. Oreskes reviewed a random sample of approximately 10 percent of the literature; of the 928 studies, *not one* disagreed with the consensus view that humans are contributing to global warming.¹⁷³

Despite what ExxonMobil might try to tell you, today, in 2006, there is widespread agreement among credentialed climate scientists around the world that human-caused global warming is well under way. Without a concerted effort to curb heat-trapping emissions, it spells trouble for the health and well-being of our planet.

Appendix B

GROUPS AND INDIVIDUALS ASSOCIATED WITH
EXXONMOBIL'S DISINFORMATION CAMPAIGNTable 1 Select ExxonMobil-Funded Organizations Providing Disinformation on Global Warming¹⁷⁴

Organization	Total ExxonMobil Funding ¹⁷⁵ (1998-2005)	Illustrative Information
Africa Fighting Malaria	\$30,000	AFM received \$30,000 donation in 2004 for "climate change outreach." This grant represents 10% of their total expenses for that year. AFM's website has an extensive collection of articles and commentary that argue against urgent action on climate change. ¹⁷⁶
American Council for Capital Formation, Center for Policy Research	\$1,604,523	One-third of the total ExxonMobil grants to ACCF-CPR between 1998 and 2005 were specifically designated for climate change activities. ExxonMobil funds represent approximately 35% of their total expenses in 2005. ¹⁷⁷
American Council on Science and Health	\$125,000	ExxonMobil donated \$15,000 to ACSH in 2004 for "climate change issues." A September 2006 Better Business Bureau Wise Giving Alliance Charity Report concludes that the ACSH does not meet all the standards for charity accountability. ¹⁷⁸
American Enterprise Institute	\$1,525,000	Lee R. Raymond, retired chair and CEO of ExxonMobil, is vice chairman of AEI's Board of Trustees. ¹⁷⁹
American Friends of the Institute of Economic Affairs	\$50,000	American Friends of the IEA received a \$50,000 ExxonMobil donation in 2004 for "climate change issues." This grant represents 20% of their total expenses for that year. The 2004 IEA study, <i>Climate Alarmism Reconsidered</i> , "demonstrates how the balance of evidence supports a benign, enhanced greenhouse effect." ¹⁸⁰
American Legislative Exchange Council	\$1,111,700	Of the total ExxonMobil grants to ALEC, \$327,000 was specifically for climate change projects. ALEC received \$241,500 in 2005 from ExxonMobil.
Annapolis Center for Science-Based Public Policy	\$783,500	In 2002, ExxonMobil funds represented approximately 20% of their total expenses. The Annapolis Center's climate work includes production of materials exaggerating the uncertainty about the human contribution to climate change. Climate contrarians Salie Salunke and Richard Lindzen serve as scientific advisors. ¹⁸¹
Arizona State University, Office of Climatology	\$49,500	The Office of Climatology at ASU received an ExxonMobil donation in 2001. Robert C. Balling, Jr., directed the office during this time. ¹⁸² ExxonMobil did not donate to any other offices of climatology between 1998 and 2005.
Atlantic Legal Foundation	\$20,000	The Atlantic Legal Foundation filed an amicus brief on behalf of climate contrarians, Salie Salunke, David Legates, and Patrick Michaels, in support of the EPA's decision against the regulation of carbon dioxide emissions as a pollutant. ¹⁸³ The ALF received several ExxonMobil donations between 1998 and 2005.
Atlas Economic Research Foundation	\$680,000	Atlas Economic Research Foundation received \$65,000 in 1998 for a "global climate conference and other support." In 2003, ExxonMobil funds represented approximately 6% of their total expenses for that year.
Cato Institute	\$105,000	In 2002, ExxonMobil funds represented approximately 0.2% of the total expenses.
Center for the Defense of Free Enterprise	\$230,000	From 2003 to 2005, ExxonMobil funds represent a significant percentage of the total expenses (2003: 41%, 2004: 543%, 2005: 95%). The largest grant (\$130,000 in 2004) was specified by ExxonMobil for "global climate change issues."
Centre for the New Europe	\$170,000	ExxonMobil gave \$120,000 between 2004 and 2005 to support the centre's climate change activities.
Center for the Study of Carbon Dioxide and Global Change	\$60,000	In 2003, ExxonMobil funds represented approximately 14% of total expenses.
Citizens for a Sound Economy Educational Foundation (became FreedomWorks)	\$380,250	CSE received \$275,250 from ExxonMobil in 2001, an increase from \$30,000 the year before. CSE merged with Empower America and became FreedomWorks in 2004. ¹⁸⁴ FreedomWorks maintains that the science of climate change is "far from settled" and cites scientists such as Salie Salunke. ¹⁸⁵

Table 1 Select ExxonMobil-Funded Organizations Providing Disinformation on Global Warming¹⁷⁴
continued

Organization	Total ExxonMobil Funding ¹⁷⁵ (1998-2005)	Illustrative Information
Committee for a Constructive Tomorrow	\$472,000	Approximately 23% of the total ExxonMobil funding for the CCT was directed by ExxonMobil for climate change activities. The 2004 ExxonMobil grant represented approximately a quarter of their total expenses for that year.
Competitive Enterprise Institute	\$2,005,000	Of the organizations analyzed, CEI received 1.2 times more money from ExxonMobil since 1998 than the second most-funded organization, AEI. In FY 2003, ExxonMobil grants represented approximately 16% of CEI's total expenses.
Congress of Racial Equality (CORE)	\$235,000	In 2004, ExxonMobil donated \$125,000 for climate change activities. This organization is not required to file an annual return with the IRS because its income is reportedly less than \$25,000 annually. ¹⁷⁶
Consumer Alert, Inc.	\$70,000	In 2004, the ExxonMobil grants for climate change "opinion leader and public education efforts" and climate change "outreach to opinion leaders" represented approximately 14% of their total expenses for that year.
Federalist Society for Law & Public Policy Studies	\$90,000	S. Fred Singer is a featured expert for the Federalist Society, which received funding from ExxonMobil every year from 2000 to 2005.
Foundation for Research on Economics and the Environment	\$210,000	FREE's federal judicial seminars in Montana, which were reported in a May 2006 Washington Post article as funded by ExxonMobil and other corporations, have been criticized for facilitating special interest lobbying. ¹⁷⁷ In 2004, ExxonMobil donated \$20,000 for a "climate seminar."
Fraser Institute	\$120,000	All of the funds ExxonMobil donated to the Fraser Institute between 1998 and 2005 were for climate change work.
Free Enterprise Action Institute	\$130,000	The Free Enterprise Action Institute is registered under Steven Milloy's name and home address. In 2005, ExxonMobil funds represented approximately 64% of total expenses. Tax filings from 2004 and 2005 reported no staff.
Frontiers of Freedom Institute	\$1,002,000	A May 2003 New York Times article reported that the \$232,000 ExxonMobil donation in 2002 (up from \$40,000 the year before) represented approximately one-third of FF's annual budget. Almost half of their total ExxonMobil donations since 1998 were specifically designated by ExxonMobil for climate change projects. ¹⁷⁸
George G. Marshall Institute	\$630,000	The George G. Marshall Institute has received a steady stream of funding from ExxonMobil for its climate science program: \$405,000 between 2001 and 2004. In 2004, ExxonMobil funds represented approximately 21% of total expenses. The Marshall Institute in turn donated \$12,602 to the Tech Central Science Foundation (Tech Central Station) in 2004. ¹⁷⁹
Heartland Institute	\$561,500	Nearly 40% of the total funds that the Heartland Institute has received from ExxonMobil since 1998 were specifically designated for climate change projects. ExxonMobil donated \$119,000 in 2005, its biggest gift to Heartland since 1998.
Heritage Foundation	\$460,000	ExxonMobil gave \$25,000 in 2002 for "climate change issues."
Hoover Institution on War, Revolution, and Peace, Stanford University	\$295,000	ExxonMobil donated \$50,000 in 2003 for "global climate change projects." Climate contrarians Sallie Krawcheck and S. Fred Singer were Weason Fellows for the Hoover Institute, a public policy research center. ¹⁸⁰
Independent Institute	\$70,000	Climate contrarians S. Fred Singer, David Legates, and Frederick Betz are all research fellows at the Independent Institute, which has received money from ExxonMobil from at least 1998 to 2005.
Institute for Energy Research	\$177,000	The Institute received \$45,000 in 2004 for "climate change and energy policy issues" from ExxonMobil. In 2005, ExxonMobil funds represented approximately 31% of total expenses.
International Policy Network	\$266,000	The International Policy Network's largest grant from ExxonMobil since 1998, \$115,000 in 2004, was specifically designated for "climate change" activities. This grant represented 16% of their total expenses for that year.
Lindenwood University	\$10,000	In 2004, ExxonMobil donated \$5,000 for "climate change outreach." Lectures publicized on the university's Institute for Study of Economics and the Environment, for example, question the human contribution to global warming. ¹⁸¹
Media Research Center	\$150,000	\$100,000 of the total funds the Media Research Center received from ExxonMobil between 1998 and 2005 were specifically designated for climate change activities.

Table 1 **Select ExxonMobil-Funded Organizations Providing Disinformation on Global Warming**¹⁷⁴
continued

Organization	Total ExxonMobil Funding ¹⁷⁵ (1998–2006)	Illustrative Information
Mercatus Center, George Mason University	\$80,000	ExxonMobil funded \$40,000 in 2004 to support the Mercatus Center's work on climate change regulation.
National Association of Neighborhoods	\$100,000	In 2004, an ExxonMobil grant for work on climate change issues represented approximately 6% of total expenses.
National Center for Policy Analysis	\$420,900	The NCPA received funding from ExxonMobil every year from 2000 to 2005. NCPA climate work includes, for example, a paper authored by climate contrarian David Legates that argued the arctic polar bear population was not threatened by global warming. ¹⁷⁶ The NCPA also cites the work of Robert Balling, Jr., John Christy, and other climate contrarians.
National Center for Public Policy Research	\$280,000	In 2003, ExxonMobil gave the center \$30,000 to fund the EnviroTruth website (www.envirotruth.org), which purportedly provides information on the "truths and falsehoods" of a variety of environmental issues, including climate change. ¹⁷⁷
National Environmental Policy Institute	\$75,000	Steven Milloy is the former director of the NEPI. ¹⁷⁸ ExxonMobil funds in 2000 represented 3% of their total expenses that year. The activities of NEPI's Global Climate Science Project included a Congressional roundtable and white paper referencing several climate contrarians. ¹⁷⁹
Pacific Research Institute for Public Policy	\$355,000	PRI's largest donation from ExxonMobil since 1998 is \$100,000 in 2004 (up from \$45,000 for each of the two previous years). ExxonMobil allocated half of this grant for "climate change and environmental quality research."
Science and Environmental Policy Project	\$20,000	SEPP was founded by climate contrarian S. Fred Singer. ¹⁸⁰ ExxonMobil donated \$10,000 in 2000 for project support.
The Advancement of Sound Science Center, Inc.	\$50,000	ExxonMobil funds represented approximately 65% of total expenses in FY 2002.
Tech Central Station	\$95,000	The DCI Group ran TCS until TCS was sold in September 2006. ¹⁸¹ The DCI Group is a registered ExxonMobil lobbying firm. ¹⁸²
Weidenbaum Center, Washington University (formerly Center for the Study of American Business)	\$345,000	Murray Weidenbaum, honorary chair, has written about the "great uncertainty" of the human contribution to global warming. ¹⁸³ The center received \$70,000 from ExxonMobil in 1998 for "Global Climate Change and other support" and published papers by climate contrarians Patrick Michaels (1998) and S. Frederick Singer (1999).

TOTAL: \$15,837,873

Table 2 Scientific Spokespeople Affiliated with ExxonMobil-Funded Groups

Name	Affiliation With ExxonMobil-Funded Organizations	Title/Role
Sallie Baliunas	Annapolis Center for Science Based Public Policy	Science and Economic Advisory Council Member ²⁰⁰
	Committee for a Constructive Tomorrow	Academic and Scientific Advisory Board Member ²⁰¹
	Competitive Enterprise Institute	Report Author ²⁰²
	George C. Marshall Institute	Senior Scientist, ²⁰³ and Chair of Science Advisory Board ²⁰⁴
	Global Climate Coalition	Featured Scientist ²⁰⁵
	Heartland Institute	Writer/contributor ²⁰⁶
	Heritage Foundation	Writer/contributor ²⁰⁷
	Hoover Institution on War, Revolution and Peace	Robert Wesson Endowment Fund Fellow (1993-4) ²⁰⁸
Robert C. Balling, Jr.	Tech Central Station	Science Round Table Member ²⁰⁹
	Cato Institute	Book Author ²¹⁰
	Committee for a Constructive Tomorrow	Academic and Scientific Advisory Board Member ²¹¹
	Heritage Foundation	Policy Expert ²¹²
	International Policy Network	Writer/contributor ²¹³
John Christy	Tech Central Station	Science Roundtable Member ²¹⁴
	Competitive Enterprise Institute	Report and Article Author ²¹⁵
Hugh Ellsaesser	Independent Institute	Report Author ²¹⁶
	Committee for a Constructive Tomorrow	Academic and Scientific Advisory Board Member ²¹⁷
Shenwood B. Idso	Consumer Alert	Advisory Council Member ²¹⁸
	Center for the Study of Carbon Dioxide and Global Change	President ²¹⁹
	Committee for a Constructive Tomorrow	Academic and Scientific Advisory Board Member ²²⁰
David R. Legates	George C. Marshall Institute	Report Author ²²¹
	Competitive Enterprise Institute	Former Adjunct Scholar ²²²
	George C. Marshall Institute	Report Author ²²³
	Heartland Institute	Featured Author ²²⁴
	Independent Institute	Research Fellow ²²⁵
	National Center for Policy Analysis	Adjunct Scholar and E-team Expert ²²⁶
Richard Lindzen	Tech Central Station	Science Roundtable Member ²²⁷
	Annapolis Center for Science Based Public Policy	Science and Economic Advisory Council Member ²²⁸
	Cato Institute	Contributing Expert ²²⁹
	George C. Marshall Institute	Report Author ²³⁰

Table 2 **Scientific Spokespeople Affiliated with ExxonMobil-Funded Groups** continued

Name	Affiliation With ExxonMobil-Funded Organizations	Title/Role
Patrick J. Michaels	American Council on Science and Health	Scientific Advisor ⁽¹⁾
	American Legislative Exchange Council	Report Author ⁽²⁾
	Cato Institute	Senior Fellow in Environmental Studies ⁽³⁾
	Committee for a Constructive Tomorrow	Academic and Scientific Advisory Board Member ⁽⁴⁾
	Competitive Enterprise Institute	CEI expert ⁽⁵⁾
	Consumer Alert	Advisory Council Member ⁽⁶⁾
	George C. Marshall Institute	Book Editor and Contributor ⁽⁷⁾
	Heartland Institute	Writer/contributor ⁽⁸⁾
	Heritage Foundation	Policy Expert ⁽⁹⁾
	Tech Central Station	Science Roundtable member ⁽¹⁰⁾
Fredrick Seitz	Weidenbaum Center	Study Author ⁽¹¹⁾
	Atlantic Legal Foundation	Director Emeritus ⁽¹²⁾
	Committee for a Constructive Tomorrow	Academic and Scientific Advisory Board Member ⁽¹³⁾
	George C. Marshall Institute	Chairman Emeritus and Member of the Board of Directors ⁽¹⁴⁾
	Independent Institute	Research Fellow ⁽¹⁵⁾
S. Fred Singer	Science and Environmental Policy Project	Chairman of the Board of Directors ⁽¹⁶⁾
	American Council on Science and Health	Scientific Advisor ⁽¹⁷⁾
	Cato Institute	Writer/contributor ⁽¹⁸⁾
	Centre for the New Europe	Featured Expert ⁽¹⁹⁾
	Federalist Society for Law and Public Policy Studies	Featured Expert ⁽²⁰⁾
	Frontiers of Freedom	Adjunct Fellow ⁽²¹⁾
	Heritage Foundation	Senior Fellow ⁽²²⁾
	Hoover Institution on War, Revolution and Peace	Robert Wesson Endowment Fund Fellow and Featured Author ⁽²³⁾
	Independent Institute	Research Fellow ⁽²⁴⁾
	National Center for Policy Analysis	Adjunct Scholar ⁽²⁵⁾ and E-Team Expert ⁽²⁶⁾
	Science and Environmental Policy Project	President ⁽²⁷⁾
	Weidenbaum Center	Study Author ⁽²⁸⁾
Willie Soon	Fraser Institute	Featured Expert ⁽²⁹⁾
	Frontiers of Freedom	Chief Scientific Researcher for the Organization's Center for Science and Public Policy ⁽³⁰⁾
	George C. Marshall Institute	Senior Scientist ⁽³¹⁾
	Heartland Institute	Writer/contributor ⁽³²⁾
	Tech Central Station	Science Roundtable member ⁽³³⁾

Table 3 Key Personnel Overlap between Tobacco and Climate Disinformation Campaigns

Person	Tobacco Company Affiliation	Climate Campaign Role*
Doug Goodyear	VP, Walt Klein and Associates, PR firm for R.J. Reynolds tobacco company (RJR) Cofounder, Ramhurst, an ostensibly grassroots organization for "smokers' rights" that received funding from RJR ²⁴	CEO, DCI Group, a registered ExxonMobil lobbying firm that created Tech Central Station, an on-line journal that publishes articles by climate contrarians. Director, Tech Central Science Foundation, funding arm of Tech Central Station ²⁵
Timothy N. Hyde	Senior Director of Public Issues, RJR, 1988 to 1997 ²⁶	Managing Partner, DCI Group
Steven Milloy	Headed The Advancement of Sound Science Coalition (TASSC), a group that the Philip Morris tobacco company covertly created in 1993 to manufacture uncertainty about the health hazards posed by secondhand smoke ²⁷	Member, Global Climate Science Team (GCST), a group created in part by ExxonMobil that outlined an explicit strategy to invest millions of dollars to manufacture uncertainty on the issue of global warming ²⁸ Home address listed for the slightly renamed The Advancement of Sound Science Center (TASSC) and the Free Enterprise Action Institute, both funded by ExxonMobil ²⁹
Frederick Seitz	Employed by RJR to oversee the company's medical research funding, 1979 to 1989 ³⁰	Emeritus chair of the ExxonMobil-funded George C. Marshall Institute ³¹ Wrote and circulated a letter asking scientists to sign a petition calling upon the U.S. government to reject the Kyoto Protocol ³²
Tom Sydnor	Midwestern Field Coordinator, RJR ³³	Chair, DCI Group

* Major climate campaign roles were identified; this is not a comprehensive list.

*Appendix C***KEY INTERNAL DOCUMENTS**

- 1998 “Global Climate Science Team” memo
- APCO memo to Philip Morris regarding the creation of TASC
- Dobriansky talking points
- Randy Randol’s February 6, 2001, fax to the Bush team calling for Watson’s dismissal
- Sample mark up of Draft Strategic Plan for the Climate Change Science Program by Philip Cooney
- Email from Mryon Ebell, Competitive Enterprise Institute, to Phil Cooney

1998 "Global Climate Science Team" memo

Global warming: The campaign by the American Petroleum Institute
Page 1 of 6

This is meant as a discussion item within Shell.

The material below contains a memo by the API from April 1998.

Memo

Joe Walker

To: Global Climate Science Team
Cc: Michelle Rhee; Susan Meyer
Subject: Draft Global Climate Science Communications plan

As promised, attached is the draft Global Climate Science Communications Plan that we developed during our workshop last Friday. Thanks especially to those of you who participated in the workshop, and in particular to John Adams for his very helpful thoughts following up our meeting, and Alan Caudill for turning around the notes from our workshop so quickly.

Please review the plan and get back to me with your comments as soon as possible.

As those of you who were at the workshop know, we have scheduled a follow-up team meeting to review the plan in person on Friday, April 17, from 1 to 3 p.m. at the API headquarters. After that, we hope to have a "plan champion" help us move it forward to potential funding sources, perhaps starting with the global climate "Coordinating Council." That will be an item for discussion on April 17.

Again, thanks for your hard work on this project. Please e-mail me, call or fax me with your comments. Thanks.

Regards,
Joe Walker

Global Climate Science Communications

Action Plan

Situation Analysis

In December 1997, the Clinton Administration agreed in Kyoto, Japan, to a treaty to reduce greenhouse gas emissions to prevent what it purports to be changes in the global climate caused by the continuing release of such emissions. The so-called green house gases have many sources. For example, water vapor is a greenhouse gas. But the Clinton Administration's action, if eventually approved by the U.S. Senate, will mainly affect emissions from fossil fuel (gasoline, coal, natural gas, etc.) combustion.

As the climate change debate has evolved, those who oppose action have argued mainly that signing such a treaty will place the U.S. at a competitive disadvantage with most other nations, and will be extremely expensive to implement. Much of the cost will be borne by American consumers who will pay higher prices for most energy and transportation.

The climate change theory being advanced by the treaty supporters is based primarily on forecasting models with a very high degree of uncertainty. In fact, it's not known for sure whether (a) climate change actually is

http://www.euronet.nl/users/e_wesker/ew@shell/API-prop.html
9/8/2006

occurring, or (b) if it is, whether humans really have any influence on it.

Despite these weaknesses in scientific understanding, those who oppose the treaty have done little to build a case against precipitous action on climate change based on the scientific uncertainties. As a result, The Clinton Administration and environmental groups essentially have had the field to themselves. They have conducted an effective public relations program to convince the American public that the climate is changing, we humans are at fault, and we must do something about it before calamity strikes.

The environmental groups know they have been successful. Commenting after the Kyoto negotiations about recent media coverage of climate change, Tam Wathen, executive vice president of the National Environmental Trust, wrote:

"...As important as the extent of the coverage was the tone and tenor of it. In a change from just six months ago, most media stories no longer presented global warming as just a theory over which reasonable scientists could differ. Most stories described predictions of global warming as the position of the overwhelming number of mainstream scientists. That the environmental community had, to a great extent, settled the scientific issue with the U.S. media is the other great success that began perhaps several months earlier but became apparent during Kyoto."

Because the science underpinning the global climate change theory has not been challenged effectively in the media or through other vehicles reaching the American public, there is widespread ignorance, which works in favor of the Kyoto treaty and against the best interests of the United States. Indeed, the public has been highly responsive to the Clinton Administration plans. There has been little, if any, public resistance or pressure applied to Congress to reject the treaty, except by those "inside the Beltway" with vested interests.

Moreover, from the political viewpoint, it is difficult for the United States to oppose the treaty solely on economic grounds, valid as the economic issues are. It makes it too easy for others to portray the United States as putting preservation of its own lifestyle above the greater concerns of mankind. This argument, in turn, forces our negotiators to make concessions that have not been well thought through, and in the end may do far more harm than good. This is the process that unfolded at Kyoto, and is very likely to be repeated in Buenos Aires in November 1998.

The advocates of global warming have been successful on the basis of skillfully misrepresenting the science and the extent of agreement on the science, while industry and its partners coiled the science and fought on the economic issues. Yet if we can show that science does not support the Kyoto treaty - which most true climate scientists believe to be the case - this puts the United States in a stronger moral position and frees its negotiators from the need to make concessions as a defense against perceived selfish economic concerns.

Upon this tableau, the Global Climate Science Communications Team (GCSCT) developed an action plan to inform the American public that science does not support the precipitous actions Kyoto would dictate, thereby providing a climate for the right policy decisions to be made. The team considered results from a new public opinion survey in developing the plan.

Charlton Research's survey of 1,180 "informed Americans" suggests that while Americans currently perceive climate change to be a great threat, public opinion is open enough to change on climate science. When informed that "some scientists believe there is not enough evidence to suggest that [what is called global climate change] is a long-term change due to human behavior and activities," 58 percent of those surveyed said they were more likely to oppose the Kyoto treaty. Moreover, half the respondents harbored doubts about climate science.

GCSCT members who contributed to the development of the plan are A. John Adams, John Adams Associates; Candace Crowell, Science and Environmental Policy Project; David Rothbard, Committee For A Constructive Tomorrow; Jeffrey Salmon, The Marshall Institute; Lee Garrigan, Environmental Issues Council; Lynne Bouchey and Myron Elff, Frontiers of Freedom; Peter Cleary, Americans for Tax Reform; Randy Rausel, Exxon Corp.; Robert Gehrl, The Southern Company; Sharon Kneiss, Chevron Corp; Steve Miller, The Advancement of Sound Science Coalition; and Joseph Walker, American Petroleum Institute.

The action plan is detailed on the following pages.

Global Climate Science Communications

Action Plan

Project Goal

A majority of the American public, including industry leadership, recognizes that significant uncertainties exist in climate science, and therefore raises questions among those (e.g. Congress) who chart the future U.S. course on global climate change.

Progress will be measured toward the goal. A measurement of the public's perspective on climate science will be taken before the plan is launched, and the same measurement will be taken at one or more as-yet-to-be-determined intervals as the plan is implemented.

Victory Will Be Achieved When

- Average citizen "understand" (recognize) uncertainties in climate science; recognition of uncertainties becomes part of the "conventional wisdom"
- Media "understands" (recognizes) uncertainties in climate science
- Media coverage reflects balance on climate science and recognition of the validity of viewpoints that challenge the current "conventional wisdom"
- Industry senior leadership understands uncertainties in climate science, making them stronger ambassadors to those who shape climate policy
- Those promoting the Kyoto treaty on the basis of extent science appears to be out of touch with reality.

Current Reality

Unless "climate change" becomes a non-issue, meaning that the Kyoto proposal is defeated and there are no further initiatives to thwart the threat of climate change, there may be no moment when we can declare victory for our efforts. It will be necessary to establish measurements for the science effort to track progress toward achieving the goal and strategic success.

Strategies and Tactics

I. National Media Relations Program: Develop and implement a national media relations program to inform the media about uncertainties in climate science; to generate national, regional and local media coverage on the scientific uncertainties, and thereby educate and inform the public, stimulating them to raise questions with policy makers.

Tactics: These tactics will be undertaken between now and the next climate meeting in Buenos Aires/Argentina, in November 1998, and will be continued thereafter, as appropriate. Activities will be launched as soon as the plan is approved, funding obtained, and the necessary resources (e.g., public relations counsel) arranged and deployed. In all cases, tactical implementation will be fully integrated with other elements of this action plan, most especially Strategy II (National Climate Science Data Center).

Identify, recruit and train a team of five independent scientists to participate in media outreach. These will be individuals who do not have a long history of visibility and/or participation in the climate change debate. Rather, this team will consist of new faces who will add their voices to those recognized scientists who already are vocal.

- Develop a global climate science information kit for media including peer-reviewed papers that undercut the "conventional wisdom" on climate science. This kit also will include understandable communications,

including simple fact sheets that present scientific uncertainties in language that the media and public can understand.

- Conduct briefings by media-trained scientists for science writers in the top 20 media markets, using the information kits. Distribute the information kits to daily newspapers nationwide with offer of scientists to brief reporters at each paper. Develop, disseminate radio news releases featuring scientists nationwide, and offer scientists to appear on radio talk shows across the country.
- Produce, distribute a steady stream of climate science information via facsimile and e-mail to science writers around the country.
- Produce, distribute via syndicate and directly to newspapers nationwide a steady stream of op-ed columns and letters to the editor authored by scientists.
- Convince one of the major news national TV journalists (e.g., John Stossel) to produce a report examining the scientific underpinnings of the Kyoto treaty.
- Organize, promote and conduct through grassroots organizations a series of campus/community workshops/debates on climate science in 10 most important states during the period mid-August through October, 1998.
- Consider advertising the scientific uncertainties in select markets to support national, regional and local (e.g., workshops / debates), as appropriate.

National Media Program Budget -- \$600,000 plus paid advertising

II. Global Climate Science Information Source: Develop and implement a program to inject credible science and scientific accountability into the global climate debate, thereby raising questions about and undercutting the "prevailing scientific wisdom." The strategy will have the added benefit of providing a platform for credible, constructive criticism of the opposition's position on the science.

Tactics: As with the National Media Relations Program, these activities will be undertaken between now and the next climate meeting in Buenos Aires, Argentina, in November 1998, and will continue thereafter. Initiatives will be launched as soon as the plan is approved, funding obtained, and the necessary resources arranged and deployed.

- Establish a Global Climate Science Data Center. The GCSDC will be established in Washington as a non-profit educational foundation with an advisory board of respected climate scientists. It will be staffed initially with professionals on loan from various companies and associations with a major interest in the climate issue. These executives will bring with them knowledge and experience in the following areas.
 - Overall history of climate research and the IPCC process;
 - Congressional relations and knowledge of where individual Senators stand on the climate issue;
 - Knowledge of key climate scientists and where they stand;
 - Ability to identify and recruit as many as 20 respected climate scientists to serve on the science advisory board;
 - Knowledge and expertise in media relations and with established relationships with science and energy writers, columnists and editorial writers;
 - Expertise in grassroots organization; and
 - Campaign organization and administration.

The GCSDC will be led by dynamic senior executive with a major personal commitment to the goals of the campaign and easy access to business leaders at the CEO level. The Center will be run on a day-to-day basis by an executive director with responsibility for ensuring targets are met. The Center will be funded at a level that will permit it to succeed, including funding for research contracts that may be deemed appropriate to fill gaps in climate science (e.g., a complete scientific critique of the IPCC research and its conclusions).

- The GCSDC will become a one-stop resource on climate science for members of Congress, the media, industry and all others concerned. It will be in constant contact with the best climate scientists and ensure that their findings and views receive appropriate attention. It will provide them with the logistical and moral support they have been lacking. In short, it will be a sound scientific alternative to the IPCC. Its functions will include:
 - Providing as an easily accessible database (including a website) of all mainstream climate science information.
 - Identifying and establishing cooperative relationships with all major scientists whose research in this field supports our position.
 - Establishing cooperative relationships with other mainstream scientific organizations (e.g., meteorologists, geophysicists) to bring their perspectives to bear on the debate, as appropriate.
 - Developing opportunities to maximize the impact of scientific views consistent with ours with Congress, the media and other key audiences.
 - Monitoring and serving as an early warning system for scientific developments with the potential to impact on the climate science debate, pro and con.
 - Responding to claims from the scientific alarmists and media.
 - Providing grants for advocacy on climate science, as deemed appropriate.

Global Climate Science Data Center Budget --- \$5,000,000 (Spread over two years minimum)

III. National Direct Outreach and Education: Develop and implement a direct outreach program to inform and educate members of Congress, state officials, industry leadership, and school teachers/students about uncertainties in climate science. This strategy will enable Congress, state officials and industry leaders will be able to raise such serious questions about the Kyoto treaty's scientific underpinnings that American policy-makers not only will refuse to endorse it, they will seek to prevent progress toward implementation at the Buenos Aires meeting in November or through other ways. Informing teachers/students about uncertainties in climate science will begin to erect a barrier against further efforts to impose Kyoto-like measures in the future.

Tactics: Informing and educating members of Congress, state officials and industry leaders will be undertaken as soon as the plan is approved, funding is obtained, and the necessary resources are arrayed and will continue through Buenos Aires and for the foreseeable future. The teachers/students outreach program will be developed and launched in early 1999. In all cases, tactical implementation will be fully integrated with other elements of this action plan.

- Develop and conduct through the Global Climate Science Data Center science briefings for Congress, governors, state legislators, and industry leaders by August 1998.
- Develop information kits on climate science targeted specifically at the needs of government officials and industry leaders, to be used in conjunction with and separately from the in-person briefings to further disseminate information on climate science uncertainties and thereby arm these influentials to raise

serious questions on the science issue.

- Organize under the GCSDC a "Science Education Task Group" that will serve as the point of outreach to the National Science Teachers Association (NSTA) and other influential science education organizations. Work with NSTA to develop school materials that present a credible, balanced picture of climate science for use in classrooms nationwide.
- Distribute educational materials directly to schools and through grassroots organizations of climate science partners (companies, organizations that participate in this effort).

National Direct Outreach Program Budget — \$300,000

IV. Funding/Fund Allocation: Develop and implement program to obtain funding, and to allocate funds to ensure that the program is carried out effectively.

Tactics: This strategy will be implemented as soon as we have the go-ahead to proceed.

- Potential funding sources were identified as American Petroleum Institute (API) and its members; Business Round Table (BRT) and its members; Edison Electric Institute (EEI) and its members; Independent Petroleum Association of America (IPAA) and its members; and the National Mining Association (NMA) and its members.
- Potential fund allocators were identified as the American Legislative Exchange Council (ALEC), Committee For A Constructive Tomorrow (CFAT), Competitive Enterprise Institute, Frontiers of Freedom and The Marshall Institute.

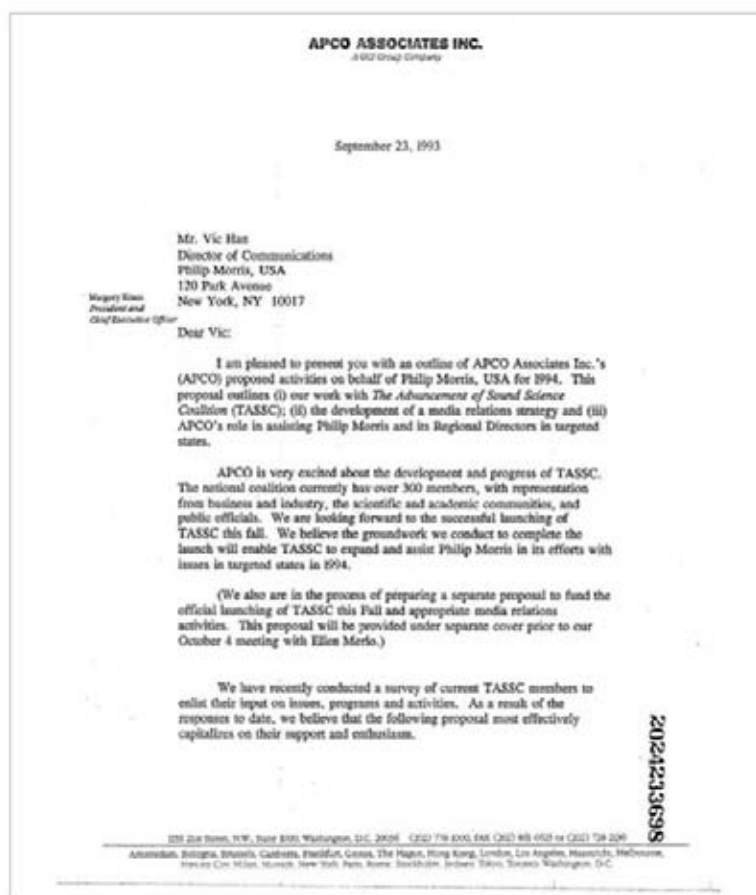
Total Funds Required to Implement Program through November 1998 — \$2,000,000 (A significant portion of funding for the GCSDC will be deferred until 1999 and beyond)

Measurements

Various metrics will be used to track progress. These measurements will have to be determined in fleshing out the action plan and may include:

- Baseline public / government official opinion surveys and periodic follow-up surveys on the percentage of Americans and government officials who recognize significant uncertainties in climate science.
- Tracking the percent of media articles that raise questions about climate science.
- Number of Members of Congress exposed to our materials on climate science.
- Number of communications on climate science received by Members of Congress from their constituents.
- Number of radio talk show appearances by scientists questioning the "prevailing wisdom" on climate science.
- Number of school teachers / students reached with our information on climate science.
- Number of science writers briefed and who report upon climate science uncertainties.
- Total audience exposed to newspaper, radio, television coverage of science uncertainties.

APCO memo to Philip Morris regarding the creation of TASSC
(available at <http://tobaccodocuments.org/pms/2024233698-3702.html#image1>)



- 2 -

SCOPE OF WORK

APCO proposes three levels of assistance that it can provide to Philip Morris: (i) expanding and overseeing TASSC and its programs; (ii) developing and implementing a comprehensive media relations strategy; and (iii) assisting Philip Morris's Regional Directors in targeted states. Each of these levels are outlined below.

I. EXPANDING AND OVERSEEING TASSC AND ITS PROGRAMS.

APCO proposes services that cover six critical components to the success of TASSC: (i) expanding the membership of TASSC; (ii) broadening the funding base of TASSC; (iii) conducting an on-going and comprehensive research program; (iv) directing the activities and involvement of Garrey Carruthers and other key leaders; (v) coordinating and directing outreach to the scientific and academic communities; and (vi) overseeing and implementing the administrative responsibilities of TASSC.

(i) Expanding the membership of TASSC.

APCO will continue its efforts to develop the direction of TASSC and to expand the membership of the coalition. We will continue to implement a multi-tiered program involving intensive recruitment of high-profile representatives from business and industry, scientists, public officials, and other individuals interested in promoting the use of sound science. This program includes identifying key individuals and groups, researching appropriate issues of importance to them, and developing and implementing the most effective recruitment mechanism. Much of this effort will include extensive research, personal meetings and presentations, and an on-going direct mail membership effort to expand and broaden TASSC's membership.

(ii) Broadening the funding base of TASSC.

APCO will expand its efforts to: (i) enlist additional financial support for TASSC; and (ii) ensure a continuing broad-based source of funds for the national coalition. This effort will require ongoing solicitation of support from Fortune 500 companies and other targeted business and industry groups. The fundraising campaign will include targeting select companies and groups for solicitation, analyzing the most effective way to solicit their support, and conducting personal presentations and "sales pitches". The fundraising effort also will include working closely with Philip Morris to leverage support from its corporate contacts and allies. To ensure that TASSC has a diverse group of contributors, APCO will include a comprehensive direct mail fundraising element in this program.

2024233699

- 3 -

(iii) Conducting an ongoing and comprehensive research program.

APCO will conduct a research program which includes monitoring current issues and collecting additional examples of unsound science to ensure that TASSC has the latest information and resources on the issue of unsound science. We also will monitor and maximize leverage with third parties to build and expand the TASSC database of potential allies.

(iv) Directing the activities of Garrey Carruthers and other key leaders.

APCO will direct and manage the activities of Garrey Carruthers and other key leaders participating in TASSC. This includes developing and maintaining his schedule, prioritizing his time and energies, and briefing Carruthers and other appropriate TASSC representatives.

(v) Coordinating and directing outreach to the scientific and academic communities.

APCO will conduct an on-going program of outreach to credible scientists and academicians to enlist their support and participation with TASSC and its related issues. In this regard, APCO will identify and recruit targeted individuals by matching scientists and academicians to key TASSC issues. The scientists and academicians will be encouraged to participate in TASSC media activities.

(vi) Overseeing and implementing the administrative responsibilities of TASSC.

APCO will oversee the day-to-day administrative responsibilities of running the national coalition. This includes the maintenance of member lists and records, directing necessary correspondence on behalf of the coalition, maintaining financial records, and preparing all necessary records and reports.

II. DEVELOPING AND IMPLEMENTING A COMPREHENSIVE MEDIA RELATIONS STRATEGY.

As a follow-up to the launching of TASSC, APCO will implement a comprehensive media relations effort which would include the development of a TASSC Public Information Bureau. The primary objective of the TASSC Public Information Bureau is to (i) maximize coverage of the coalition; (ii) disseminate key messages of the coalition; and (iii) maximize the use of TASSC and its members into Philip Morris's issues in targeted states.

Excluded from automatic
downgrading and
declassification

2024231700

- 4 -

Our local and regional media efforts will be supplemented with a roll-out of nationally issued press releases. TASSC's Public Information Bureau will release press announcements, news alerts and serve as the "on call" headquarters for coordinating TASSC public information activities. The Bureau's activities will include:

- * Publishing and distributing a monthly update report for all TASSC members, which will quantify media impressions made the prior month and discuss new examples of unsound science.
- * Monitoring the alternative press (i.e., "public interest groups" newsletters and activities) and informing TASSC members of any upcoming studies and relevant news.
- * Arranging media tours.
- * Issuing news releases on a regular basis to news wire services, members, allies, and targeted reporters.
- * Issuing quarterly national "mat" releases to smaller media markets to build grassroots support.
- * Acting as a clearinghouse for speaking requests of TASSC scientists or other members and maintaining a Speakers Bureau to provide speakers for allies and interested groups.
- * Drafting "boilerplate" speeches, press releases and op-eds to be utilized by TASSC field representatives.
- * Placing articles/op-eds in trade publications to serve as a member recruitment tool in targeted industries, such as the agriculture, chemical, food additive, and biotechnology fields.
- * Monitoring the field and serving as a management central command for any crises that occur.

III. ASSISTANCE TO REGIONAL DIRECTORS IN TARGETED STATES

AFCO will assist the Regional Directors in states targeted by Philip Morris. This includes utilizing TASSC as a tool in targeted legislative battles, developing and/or working with other coalitions and grassroots groups, and implementing approved campaign tactics and efforts.

2021233701

- 5 -

PROPOSED FEES

The proposed fees for each level of assistance is as follows:

I. Expanding and overseeing TASSC and its programs.

Fee of \$20,000 per month, plus appropriate out-of-pocket expenses. In addition to this fee, we will bill an additional amount of \$5,000 to compensate Garrey Caruthers.

II. Developing and implementing a comprehensive media relations strategy.

Fee of \$15,000 per month, plus appropriate out-of-pocket expenses. If there are special media-related projects beyond what currently is anticipated we will provide a special budget for your approval.

III. Assistance to PM's Regional Directors in targeted states.

APCO is currently under contract for \$12,500 per month to respond to the needs of Regional Directors. We hope to work with Tina Walls to understand the number of states targeted for 1994 and the level of assistance required in those states before a final proposed fee can be established.

* * *

We have been excited about the progress of TASSC to date and are committed to the continued development and success of the national coalition. If you have any questions, or if I can provide you with additional information, please let me know.

I look forward to discussing this proposal with you.

Sincerely,



Margery Kizun

2021233702

Dobriansky talking points (obtained by ExxonSecrets.org through FOIA request)

UNCLASSIFIED		200113080
		United States Department of State Washington, D. C. 20520 JUN 20 2001
BRIEFING MEMORANDUM		02
S/S		RELEASED IN FULL
<u>UNCLASSIFIED</u>		
TO:	G - Under Secretary Dobriansky	
FROM:	CES - Ken Brill, Acting <i>KB</i>	
SUBJECT:	Your Meeting with members of the Global Climate Coalition, June 21, 2001. 9:10 - 9:50 a.m.	
<p>On Thursday morning you will speak to members of the Global Climate Coalition (GCC), a group formed a number of years ago to coordinate the participation of business and industry in domestic and international climate change policy making. GCC members are completely supportive of the Administration's position on climate change and the rejection of the Kyoto Protocol.</p>		
<p>Our objectives are:</p> <ul style="list-style-type: none"> • To emphasize the Administration's commitment to develop a realistic and effective response to climate change; • To brief members on the status of the climate change policy review and principles important to policy development; and • To solicit GCC ideas on alternative to Kyoto as part of continuing dialogue with friends and allies. 		
<p>GCC participants, some of whom are scientific experts, will state that they are 100% behind the remarks articulated by the President on climate change policy. They will be greatly interested in further elaboration of the Administration's domestic and international climate change policy. In general, GCC favors voluntary actions, flexible market-based mechanisms and the development of cost-effective technologies. They will want to know our intentions for the resumed session of COP6.</p>		
<p>Attachments:</p> <ul style="list-style-type: none"> Tab 1 - Talking points Tab 2 - Scenario Tab 3 - GCC Action Agenda and members 		
UNITED STATES DEPARTMENT OF STATE REVIEW AUTHORITY: JOHN L. MILLIS DATE/CASE ID: 03 MAY 2004 36932595		<u>UNCLASSIFIED</u> UNCLASSIFIED

UNCLASSIFIED

02A

RELEASED IN FULL

Talking Points

Climate Change is a serious problem:

- Administration seeks realistic and effective policies.

Protocol was not appropriate response:

- No signal whatsoever that developing countries would have eventually participated.
- Potentially too costly and would never have been ratified. Better to start over now rather than continue charade.

Future constructs:

- Hold to Principles - response must be global, reasoned and flexible; include market incentives and incentives for technological innovation; sustain economic growth.
- Protect U.S. interests in the international negotiations.
- Guard against trade sanctions as means to force Protocol upon the United States.

Solicit views in developing an effective and market-based response:

- POTUS rejected Kyoto, in part, based on input from you.
- POTUS believes, however, we need to show leadership on this issue to advance U.S. domestic and international policy objectives.
- Interested in hearing from you, what type of international alternatives to Kyoto would you support?

UNCLASSIFIED

Randy Randol's February 6, 2001, fax to the Bush team calling for Watson's dismissal (obtained by Natural Resources Defense Council through FOIA request)

FEB-06-2001 10:11:12 SENDER: RANDOL, RANDY A.

Facsimile Cover Sheet

TO: John Howard
Office: CEQ
FAX: 202.456.2710
Telephone: 202.456.6540

FROM: Randy Randol
Company: ExxonMobil - Washington Office
FAX: 202.862.0267 (Backup: 202.862.0268)
Telephone: 202.862.0220 (Backup: 202.862.0223)
E-Mail: arthur.g.randol@exxon.com

ExxonMobil

Exxon Mobil Corporation
 1000 Pennsylvania Avenue, N.W.
 Suite 200
 Washington, District of Columbia 20004-4413
 202.862.0220 Telephone
 202.862.0267 Facsimile
 arthur.g.randol@exxon.com

Date/Time: 6 Feb 2001, 10:00 a.m.

Pages including Cover: 18

Regarding: Bush Team for IPCC Negotiations

Attached is a brief memo outlining the issues related to the on-going IPCC negotiations on the Third Assessment Report. I have also attached other material that may be useful to you.

I will call to discuss the recommendations regarding the team that can better represent the Bush Administration interests until key appointments and re-assessments are made.

Randy

FORM-0003 10/13 EXHIBIT A, PAGE 10 SECRET/0000 11/02/14

Global Climate Science-Issues for 2001

A. Intergovernmental Panel on Climate Change (IPCC)

1. The IPCC is on schedule to issue in late September 2001 its Third Assessment Report (TAR), composed of three Working Group Reports on the science, impacts and mitigation of climate change and a Synthesis Report. The IPCC is headed by Robert Watson, an American who is also the chief science person at the World Bank (Director, Environment Dept.) Watson was hand picked by Al Gore and served in the Clinton/Gore White House Office of Science and Technology policy. His tenure at the IPCC ends with the completion of the TAR. However, he could be extended at an IPCC session this year or next.

During the Hague meeting in November, Watson presented a sneak preview of the Third Assessment Report with the following caveat: *"None of the conclusions presented in this report are taken from the TAR, but are consistent with the draft conclusions, which are subject to change until final government approval and acceptance early next year."* His statement belied his real intent, which was to get media coverage of his views before there was a chance for the process to challenge his personal agenda.

Issue: Can Watson be replaced now at the request of the U.S.?

The Working Group Reports are prepared by scientists, economists, engineers, and others, including some persons from industry and environmental organizations. Each report includes a "Summary for Policy Makers" (SPM) that is approved by IPCC governments by consensus in a line-by-line review at a Working Group session with the underlying report (approx. 1000 pages) accepted by the Group at that session.

In the case of the Working Group I report on science, the Group met in plenary in Shanghai, China on January 17-20, approved the SPM, and accepted the report. The US delegation (Moldke lead) was satisfied to raise no objections on the tone and content of the report. To avoid accountability to the Bush Administration, the meeting actually ran until 1:00 a.m. on January 21 which was exactly January 20, 12:00 noon in the U.S. The U.S. was represented by Clinton/Gore carry-overs with aggressive agendas:

1. State Department: Jeff Moldke, Deputy Director, Global Change Office, Oceans and International Environmental and Scientific Affairs (and Deputy Chief of Mission, Lesotho)
2. White House Office of Science and Technology Policy: Rosina Bierbaum, Associate Director, Environment,
3. White House U.S. Global Change Research Program: Michael MacCracken, Executive Director, National Assessment Coordination Office.

IPCC2001
 Revised 2/6/01
 Page 1 of 4

FEB-06-2001 10:13 ENVON08L WISH DC 202008000 P.00-10

Global Climate Science-Issues for 2001

Bierbaum and MacCracken were both actively involved in the production of the US National Assessment that has been roundly criticized for its political and scientific bias. The National Assessment was driven by a political schedule to help the Gore campaign. Several controlled leaks were used to get maximum media attention since Congressional oversight forced a delay in the release of the report.

Issue: Have Bierbaum and MacCracken been removed from their positions of influence?

Issue: What was the U.S. position on the WG1 Report? Did it reflect the comments received?

While the SPM was written to highlight the "human fingerprint", it also states that: "Further research is required to improve the ability to detect, attribute and understand climate change, to reduce uncertainties, and to project future climate changes."

According to an AP story, Watson, in commenting on the report, which was released by the Group, but which has not yet been accepted by the full IPCC, said:

"The United States is way off meeting its targets," said Watson. "A country like China has done more, in my opinion, than a country like the United States to move forward in economic development while remaining environmentally sensitive."

China, of course, has no commitments under the Kyoto Protocol and its greenhouse gas emissions are growing and will soon exceed those of the U.S.

2. Working Group II is scheduled to meet on the "Impacts of Climate Change" in plenary in Geneva, Switzerland, from February 12-16. Reportedly, the U.S. has submitted comments on the draft report by January 8, which was the deadline. Those comments have not been made public.

Issue: Who has reviewed those comments?

Issue: What is the U.S. position on the report?

Issue: Who will represent the U.S. at this meeting?

IPCC2001
Revised: 2/8/01
Page 2 of 4

Global Climate Science-Issues for 2001

3. Working Group III is scheduled to meet on "Mitigation of Climate Change" in plenary in Accra, Ghana, from February 28 to March 3. Government comments on that draft report/SPM are due to be submitted by January 29.

Issue: Who has reviewed those comments?

Issue: What is the U.S. position on the report?

Issue: Who will represent the U.S.? What is U.S. position?

4. On April 4-6, 2001, the full IPCC is scheduled to meet in plenary in Nairobi, Kenya, to accept by consensus the results of the three Working Groups.

Issue: Will the U.S. revisit the Working Group I comments of the Clinton/Gore representatives?

Issue: Who will represent the U.S. and what will be the U.S. position?

Issue: Can this report be deferred until the US has provided updated input (30-45 days)?

5. The last element of the TAR is the Synthesis Report (SR) that is still being drafted under Robert Watson's control. A draft of the SR, including its SPM, is to be sent out for simultaneous expert and Government review and comment with a deadline of May 29. A second draft is scheduled to be given to Governments only for their review and comment on July 6 with a deadline of August 31. The IPCC plenary will meet in London from September 24-29 to adopt/approve the Synthesis Report by consensus.

Issue: Can this report be deferred at least 45 days?

Thereafter the entire TAR will be released (in time for political use at COP-7).

COP-6, held in The Hague last November, ended without finishing its work on implementation of the Kyoto Protocol and with an understanding that it would meet again in 2001, but with no date established. The SBI and SBSTA are scheduled to meet in Bonn, Germany, from May 21-June 1. Some Parties want COP-6 to reconvene during that time. COP-7 is scheduled to meet October 29-November 9 in Marrakech, Morocco, together with the subsidiary bodies.

FEB-06-2001 10:14

E:\D\FOUO\1\WFOU\1\

Global Climate Science-Issues for 2001

Recommendations:

1. Restructure the U.S. attendance at upcoming IPCC meetings to assure none of the Clinton/Gore proponents are involved in any decisional activities.

a. Appoint **Dr. John Christy**, University of Alabama-Huntsville(Lead Author-Working Group I) as science lead for the balance of the IPCC process. Phone: 258.981.7763 This replaces Bierbaum and MacCracken.

b. Appoint **Dr. Richard Lindzen**, MIT,(Lead Author-Working Group I) as a co-lead to conduct an immediate review of the comments on the Working Group reports(I, II and III) and to review the US comments to be submitted(II, III). Phone: 617.253.2432

c. Detail **Dr. Joe Friday**, National Research Council-Board on Atmospheric Sciences and Climate(Coordinated the "Research Pathways for the Next Decade" report that the Clinton Admin tried to bury), to work with Christy/Lindzen. Phone: 202.334.3512

d. Detail someone from the State Dept to work under the direction of Christy/Lindzen for the "consensus negotiations". This replaces Mofke.

2. Request that the April 4-6 full IPCC meeting be deferred at least 30 days until a re-assessment of US input can be made.

3. Request that all action related to the Third Assessment Report is deferred until the IPCC process is complete (30-45 days). This must include the Watson release of the draft Synthesis Report.

4. Explore the possibility of asking Speaker Hastert to make Dr. Harlan Watson, Hse Science Committee, available to work with the team. Dr. Watson has been recommended for the Assistant Secretary of State for Oceans position.

Sample mark up of Draft Strategic Plan for the Climate Change Science Program, p. 20,
by Philip Cooney, Chief of Staff, White House Council of Environmental Quality, October 2002.
(provided by Rick Piltz, Climate Science Watch)

DRAFT FOR OFFICIAL USE ONLY

1 Representation of polar climate in climate models is not as advanced as that of the lower
2 latitudes. This arises in part because of the limited data available for model development,
3 refinement, and validation, and a limited understanding of the processes at work. An
4 enhanced observation system and the use of existing and future satellite data sets should
5 improve the representation of these areas in climate models, which is necessary to accurately
6 predict future climate changes and assess the potential for these changes to be abrupt.

7
8 Warming temperatures will also affect Arctic land areas. As continuous permafrost areas
9 become discontinuous and discontinuous areas experience complete summer thawing, the
10 hydrology of northern land areas will be substantially altered. Many of the wetlands,
11 marshes, and peatland lakes in the Arctic are underlain by permanent ice. The reduction
12 of this ice will lead to the infiltration of the water into the soil and widespread changes in
13 vegetation patterns. The release of greenhouse gases such as CH₄ associated with
14 wetlands will expand in areas where meltwater running from deeper and longer thaw
15 periods does not have a natural drainage path to the ocean.

16
17 Warming will also cause reductions in mountain glaciers and advance the timing of the melt
18 of mountain snow packs in polar regions. In turn, runoff rates will change and flood
19 potential will be altered in ways that are currently not well understood. There will be
20 significant shifts in the seasonality of runoff that will have serious impacts on native
21 populations that rely on fishing and hunting for their livelihood. These changes will be
22 further complicated by shifts in precipitation regimes and a possible intensification and
23 increased frequency of extreme hydrologic events. Reducing the uncertainties in current
24 understanding of the relationships between climate change and Arctic hydrology is critical
25 for evaluating the potential impacts of climate change on Arctic communities and their
26 infrastructure. Further, a better understanding of these relationships may allow the
27 development of monitoring procedures that use changes in the Arctic as a signal of the
28 progress of global climate warming.

29
30 **RESEARCH NEEDS**

31 • Determination of basin-wide Arctic sea ice thickness, particularly in the marginal seas for
32 a period sufficient to determine if observed historic changes are present across the basin.
33 • Modeling of observed sea ice changes to determine the relative role of transport versus
34 ice loss.
35 • Establishing the mass balance and ice dynamic regime of the Thwaites/Pine Island
36 drainage system of the West Antarctic Ice Sheet and assessing its stability through
37 observationally-constrained models.
38 • Assessment of the mass balance of the Greenland ice sheet, its variability, and its
39 potential contributions to near-term sea level rise.
40 • Measurements of permafrost temperatures and thaw patterns in sufficient detail for five
41 years to establish regional thaw patterns.

42
43 **PRODUCTS AND PAYOFFS**

44 • Reduced uncertainty in estimates of the future state of the Arctic Ocean, its impact on
45 global climate, and its navigability for strategic and commercial purposes.

(Handwritten notes in right margin:)
 - along with
 - regional
 - (Arctic) ice
 - precipitation
 - hydrologic changes
 - here...

Draft Date: October 21, 2002 20

Email from Myron Ebell, Competitive Enterprise Institute, to Phil Cooney
(obtained by ExxonSecrets.org through FOIA request)



Myron Ebell <mebell@cei.org>
06/03/2002 05:08:05 PM

Record Type: Record

To: Phil Cooney/CEQ/EOP@EOP

cc:

Subject: Phil, thanks for calling and

Dear Phil,

Thanks for calling and asking for our help. I know you're in crisis mode, but from our end it is a most welcome change from the Administration's SOP, which is to tell conservatives to stop bothering them and to shut up. So it's nice to know we're needed once in a while. I want to help you cool things down, but after consulting with the team, I think that what we can do is limited until there is an official statement from the Administration repudiating the report to the UNFCCC and disavowing large parts of it.

As I said, we made the decision this morning to do as much as we could to deflect criticism by blaming EPA for freelancing. It seems to me that the folks at EPA are the obvious fall guys, and we would only hope that the fall guy (or gal) should be as high up as possible. I have done several interviews and have stressed that the president needs to get everyone rowing in the same direction. Perhaps tomorrow we will call for Whitman to be fired. I know that that doesn't sound like much help, but it seems to me that our only leverage to push you in the right direction is to drive a wedge between the President and those in the Administration who think that they are serving the president's best interests by pushing this rubbish.

The references to the National Assessment in the report are most hurtful to us because we dropped our lawsuit last September 6th after receiving a written assurance that the National Assessment did not represent "policy positions or official statements of the U. S. government." The previous communication from the U. S. government to the UNFCCC was a detailed criticism of the IPCC's Third Assessment Report that reflected that agreement and also implied a disavowal of the National Assessment. So the new transmittal to the UNCCC looks to us much like it looks to the New York Times.

So I'm willing and ready to help, but it won't be possible to do much without some sort of backtracking from the Administration. Unless that occurs, then you have handed an awful lot of ammunition to Jim Jeffords, and the only way we will be able to fight him and all his allies in the Congress is to get much more strident and noisy. Even if the Administration does move quickly to get back on the right side of the issue, it may be too late to save our side in the Senate from being squashed. If it were only this one little disaster we could all lock arms and weather the assault, but this Administration has managed, whether through incompetence or intention, to create one disaster after another and then to expect its allies to clean up the mess. I don't know whether we have the resources to clean up this one.

Best,
Myron.

ENDNOTES

1. *Fortune* 500, 2006, *Annual ranking of American largest corporations*, <http://money.cnn.com/magazines/fortune/fortune500/index.html>.
2. International Monetary Fund, 2006, *World Economic Outlook Database*, April, <http://www.imf.org/external/pubs/ft/weo/2006/01/index.htm>.
3. Rosens, E., and E.L. Andrews, 2006, At Exxon Mobil, a mixed profit but no failure, *New York Times*, January 31; also cited in *Fortune* 500, *Annual ranking*.
4. ExxonMobil Corporation, 2005, *Carbon Disclosure Project (CDP) greenhouse gas emissions questionnaire*, <http://www.exxonmobil.com/corp/pdfs/cdp2005.pdf>; ExxonMobil Corporation, 2005, *Corporate Citizens Report, environmental performance section*, http://www.exxonmobil.com/Corporate/CitizensReport05_citizen.pdf.
5. ExxonMobil Corporation, 2005, *Annual Report*, Section 2: Environmental Performance, http://www.exxonmobil.com/Corporate/CitizensReport05_citizen.pdf. This includes direct emissions from production of oil and gas, refining of oil products, manufacture of petrochemicals, and operation of power and transportation facilities, as well as company-operated marine vessels and road tankers.
6. Ibid., 45. Based on ExxonMobil 2005 retail product sales for gasoline, aviation fuels, heavy fuels, heating oils, kerosene, and diesel. See also Environmental Protection Agency (EPA), 2005, *U.S. Inventory of Greenhouse Gas Emissions and Sinks 1990-2003*, Washington, DC, for the conversion coefficients used to determine carbon dioxide emissions for combustion of each product sold by ExxonMobil in 2005. <http://www.epa.gov/globalwarming/pdf/Chap4Key-InputsGHGDCGVB/FossilFuels.htm>. Contact Union of Concerned Scientists to obtain calculation.
7. Krugman, P., 2006, *Energy of the planet*, *New York Times*, April 17.
8. See, for instance, Nash, J., 2005, *Alternative energy not in cards at ExxonMobil*, *USA Today*, October 27.
9. Moynard, J., 2006, *Exxon reports 7% increase in earnings*, *Shore Hill*, *New York Times*, April 28.
10. ABC News, 2006, Oil: Exxon chairman's \$400 million purchase, <http://abcnews.go.com/US/story?id=1842889&page=1>, April 14.
11. Center for Responsive Politics, Oil & gas: Top contributors to federal candidates and parties (2005), <http://www.opencrunch.org/industry/index.html>, accessed April 20, 2006.
12. Center for Responsive Politics, Visit <http://www.opencrunch.org/industry/index.html> and search for client Exxon Mobil. For 1998, search for both Exxon Corp and Mobil Oil.
13. ExxonMobil corporate reports including: Exxon Corporation, 1998, *Public Information and Policy Research: Community and Sponsorship Giving Report*; Exxon Corporation, 1999, *IRIS 990 form*; ExxonMobil Foundation, 2000, *IRIS 990 form*; ExxonMobil Corporation, 2001-2002, *Annual report*; ExxonMobil Corporation, 2003-2005, *Worldwide Contributions and Community Investments: Public Information and Policy Research*.
14. Tobacco Industry Research Committee, 1954, *A frank statement to cigarette smokers*, <http://ohio.industrydocuments.org/01209823-8251.html>, document code 5112781055-5112781056.
15. See <http://www.industrydocuments.org>. See also Glantz, S.A., et al., eds, 1996, *The Cigarette Papers*, Berkeley: University of California Press; and Kessler, D., 2003, *A Question of Intent: A Great American Battle With a Deadly Industry*, New York: Public Affairs.
16. Tobacco Industry Research Committee, *A frank statement*.
17. Glantz, et al., *The Cigarette Papers*; Kessler, *A Question of Intent*. See also Wells, J.K., III, 1980, *New evidence on smoking & health*, <http://ohio.industrydocuments.org/industry/08703.html>, document code 00051026-00051014.
18. Millon, K., 1998, *The Vice of Business: Ills and Excesses and Promises of Public Relations*, Chapel Hill, NC: University of North Carolina Press, p. 129.
19. Brown & Williamson (B&W), 1980, *Smoking and health proposal*, <http://ohio.industrydocuments.org/industry/032506.html>, document code 000010951-000010959.
20. Michaelis, D., and C. Macfarlane, 2005, *Manufacturing uncertainty: Connected science and the protection of the public's health and environment*, *American Journal of Public Health* 95(3), 339-348.
21. Committee of Experts on Tobacco Industry Documents, World Health Organization, 2000, *Tobacco company strategies to undermine tobacco control activities at the World Health Organization*, Geneva, Switzerland, July 1, Paper WHO/07, <http://www.who.int/tobacco/whoweb/WHO07/>.
22. Tobacco Industry Documents, World Health Organization, *Why is tobacco a public health priority?*, http://www.who.int/tobacco/health_policies/why_tobacco.html, accessed September 6, 2006.
23. American Lung Association, 2006, *Trends in tobacco use*, January, <http://www.lungusa.org/pdf/76/7676ARD43C2/FCCA-6094-SAGE-77525E70225087D/Smoking2006.pdf>.
24. Walker, M., 1998, *Testimony: State of Minnesota and Blue Cross and Blue Shield of Minnesota v Philip Morris, Inc., et al.*, Docket number C1-04-4565, Minnesota District Court, Second Judicial District, Ramsey County, February.
25. For a review of the early debate over global warming, see Linden, E., 2006, *The Wind of Change: Climate, Weather, and the Destruction of Civilization*, BFI Simon and Schuster.
26. See, for instance, *New York Times*, 1991, *Speech by Exxon chairman*, March 6, denailing the "blast speech" by then-chairman Lawrence Eisele, arguing "doubts that theories on global warming would eventually prove accurate."
27. See background on GCC on SourceWatch website at http://www.sourcewatch.org/index.php?title=Global_Climate_Coalition, accessed August 24, 2006; Monson, C., 2005, *Seven like a lion*, *Market News*, May/June.
28. See also Lewis, P., 1995, *U.S. industries oppose emission proposals*, *New York Times*, August 22.
29. Monson, *Seven like a lion*; and Hajos, P., 2001, *RIP: Global Climate Coalition: Vision for industry opposed global treaty*, *Journal of National Affairs*, January 24, <http://www.boston.com/news/nation/articles/2001jan24/climate/index>, accessed April 20, 2006.
30. Perkins, A., and H. Bauman, 2001, *Some energy executives urge U.S. shift on global warming*, *New York Times*, August 1, and a profile of the organization on the SourceWatch website at http://www.sourcewatch.org/index.php?title=Global_Climate_Coalition, accessed August 24, 2006.
31. Walker, J., 1998, *Draft global climate science communications plan*, American Petroleum Institute, April, memo to Global Climate Science Team. In Appendix C of this report or online at <http://www.americanpetroleum.com/industry/01640157.pdf>, accessed November 3, 2006. Among the GCIT members cited in the plan as having contributed to it are Randy Riedel, Exxon Corp., Steve Millig, the Advancement of Sound Science Coalition, and Joseph Walker, American Petroleum Institute.
32. APCC Association, 1995, *Revised plan for the public launching of TASSC* (through 1995), Washington, DC, October 15, <http://ohio.industrydocuments.org/pw04030403-0504.html>, document code 204030403-204030504.
33. Walker, *Draft global climate science communications plan*.
34. Ibid.
35. Ibid.

83. The question made the claim in a rebuttal to the Stern-Balunas paper published in the peer-reviewed journal of the American Geophysical Union. See Mann, M., et al., 2003, On past temperatures and anomalous late-20th century warmth, *EOS Transactions, AGU (4Q7)* 256. See also American Geophysical Union, 2003, Leading climate scientist reaffirms view that late 20th century warming was unusual and resulted from human activity, press release, July 7, <http://www.agu.org/edu/edu03070701.html>.
84. National Research Council Committee on Surface Temperature Reconstructions, 2006, Surface temperature reconstructions for the last 2,000 years, June, <http://www.nap.edu/catalog/21670.html>.
85. See, for example, O'Halloran, L., 2003, Unsettling clues about climate, *Nature Global*, May 20.
86. ExxonMobil response reports, 1998-2005.
87. Information from the website of the Marshall Institute, <http://www.marshall.org>, the Annapolis Center for Science-Based Public Policy, <http://www.anapolicycenter.org>, the Committee for a Constructive Tomorrow, <http://www.cfm.org>, and Think Global Justice, <http://www.thinkglobaljustice.com>.
88. Rockefeller University, 1995, Biography of Frederick Seitz, press release, November, <http://lib.rockefeller.edu/press/05/050620-9524.html>, document codes 87037470-87037474.
89. Hargrove, E.A., of RJR Tobacco, 1986, Letter to Frederick Seitz, Rockefeller University, <http://lib.rockefeller.edu/press/05/050620-9524.html>, document codes 508263286.
90. Holde, W.D., 1986, Corporate support for biomedical research, Letter to J. Paul Jacobs, R.J. Reynolds, June 12, <http://lib.rockefeller.edu/press/05/050620-9524.html>, document codes 508355409-508355415.
91. Quoted in Hergesdort, M., 2006, While Washington slept, *Vanity Fair*, May.
92. *Ibid.* Seitz estimates the depletion of some \$45 million of research for R.J. Reynolds, according to Hergesdort.
93. Frock, J., 1979, A discussion of tobacco industry and R.J. Reynolds Industries' support of bio-medical research, June 15, <http://lib.rockefeller.edu/press/05/050620-9524.html>, document codes 504480670-504480675.
94. Ivers, F., 1998, Research review of global warming evidence, letter, <http://www.sims.org/ijep/ijep.htm>. Also known as the Global Warming Petition.
95. Robinson, A.B., L.L. Balunas, W. Ivers, and Z.W. Robinson, 1998, *Environmental Effects of Increased Atmospheric Carbon Dioxide*, Oregon Institute of Science and Medicine and George C. Marshall Institute, <http://www.sims.org/ijep/ijep.htm>.
96. See, for instance, a review of the petition sign on the SourceWatch website, <http://www.sourcewatch.org>. Search for "Oregon Institute of Science and Medicine," show that the current website for the Oregon petition no longer includes fictional characters in original such as doctors from television show *M*A*S*H*.
97. Mann, G., 2001, Climate of uncertainty: The unknowns in global warming research don't have to be doozy, *Scientific American*, 14-15.
98. Stevens, W.K., 1998, Science academy disputes attack on global warming, *New York Times*, April 22.
99. In one characteristic example, the Council Committee for a Constructive Tomorrow admission that "FACT is demonstrating that a broad coalition—transcending political and ideological boundaries—can be built where the passion and heart of environmental activism is combined with the practical solutions of free markets and sound science," http://www.fact.org/factnew_articles.asp?allCategory=210&article=326.
100. ExxonMobil Corporation, 2005, Corporate Citizenship Report, Climate Science, http://www.exxonmobil.com/corporate/citizenship/climate_sciences.asp, accessed November 30, 2006.
101. The National Academies, 2005, Joint science academies' statement: Global response to climate change, June 7, <http://climateactionnow.org/press/06/060705.pdf>.
102. See, for instance, Kraus, M., of APCO, 1993, Letter to Yin Han, Director of Communications at Philip Morris, September 23, in Appendix C of this report.
103. See Ong, B.K., and J.A. Glaser, 2001, Countering "sound science" and "good epidemiology": Tobacco, lawyers, and public relations firms, *American Journal of Public Health*, November.
104. APCO Associates, Revised plan for the public launching of TASSC.
105. *Ibid.*
106. Lenz, J., 1993, Subject TASSC update, <http://lib.rockefeller.edu/press/05/050620-9524.html>, document codes 307423564.
107. Philip Morris, 1993, ETS media strategy, February (see), <http://lib.rockefeller.edu/press/05/050620-9524.html>, document codes 307393090-307393106.
108. Hockaday, T., and N. Cohen, 1994, Memorandum: Thoughts on TASSC Europe, Washington, DC: APCO Associates, March 25, <http://www.lib.rockefeller.edu/press/05/050620-9524.html>, document codes 307393090-307393106.
109. Advancement of Sound Science Center and Free Enterprise Education Institute, 185 990 form, ExxonMobil Foundation, 2000, 185 990 form, and ExxonMobil Corporation, 2001-2005, Worldwide Contributions. Current Union of Concerned Scientists for sources.
110. Free Enterprise Education Institute, Inc., 2004, 185 990 form, <http://www.guidestar.org/finDocuments/2004010103402004-610634201-01a2624-9.pdf>.
111. Hergesdort, While Washington slept.
112. SourceWatch, Profile of Craig L. Fuller, http://www.sourcewatch.org/index.php?title=Craig_L_Fuller, accessed November 15, 2006. Cites his appointment in 1992 as Senior Vice President for Corporate Affairs at Philip Morris Companies For Barbara and Mitchell's connections to Big Tobacco, see Driskell, J., 1997, Tobacco lobby ready for Congress, *American Press*, September 1.
113. Center for Responsive Politics, Oil & gas, top contributors to federal candidates and parties, <http://www.opencrs.org/index.cfm?id=Oil&OilCyclo>, accessed November 15, 2006.
114. Milbank, D., and J. Blum, 2005, Document says oil chief met with Cheney task force, *Washington Post*, November 16.
115. Harris, P., 2005, Bush covers up climate research, *The Observer*, September 21. See also Vidal, J., 2005, Remixed: How oil giant influenced Bush, *The Guardian*, June 8.
116. Trill, K., 2001, Re: Your meeting with members of the Global Climate Coalition, June 21, 9:50:30 a.m., briefing memorandum to Paula Delaney, Washington, DC: U.S. Department of State, June 20, <http://www.foreignaffairs.org/record/st/usa/pressroom/global-climate-coalition-meet.pdf>.
117. Intergovernmental Panel on Climate Change, 2001, *Climate Change 2001: The Scientific Basis, Summary for Policymakers*, <http://www.grida.no/publications/other/ipcc/gl2001.htm>.
118. Raskoff, B., 2001, Bush team for IPCC negotiations, Memo to John Howard, White House Council on Environmental Quality, Washington, DC: ExxonMobil, February 6, <http://www.enr.com/energy/020601.pdf>.
119. *Ibid.*
120. Levin, A., 2002, Battle over IPCC chair marks debate on U.S. climate policy, *Science*, April 12. See also Nemeth, J., 2002, Global warming official vet, *Science Journal-Orientation*, April 20.
121. As quoted in Levin, Battle over IPCC chair.
122. Elliptic, J., 2005, Climate official's work is questioned, *Washington Post*, December 5.
123. *Ibid.*
124. Pitt, B., 2005, On issues of concern about the governance and direction of the climate change science program, June 1, Rick Pitt's resignation letter addressed to U.S. Climate Change Science Program agency principals, <http://www.climateactionnow.org/press/05/050620-9524.html>.
125. *Democracy Now*, 2005, Bush administration chief: From the oil lobby to the White House to ExxonMobil, radio interview with Andrew Reinke, June 20, <http://www.democracynow.org/article.php?id=0506200524225>.
126. Reinke, A., 2005, In editing reports, Bush officials minimized greenhouse gas links, *New York Times*, June 8.
127. Pitt, On issues of concern.
128. *Ibid.*

- 109 Revkin, A., 2005, Former Bush aide who edited reports is hired by Exxon, *New York Times*, June 15.
- 110 Ibid. See also National Resources Defense Council, 2005, Former oil lobbyist employed by White House leaves to join ExxonMobil, press release, June 15, http://www.nrdc.org/publications/2005_06.asp, accessed June 2005.
- 111 U.S. Global Change Research Program, 2000, *U.S. National Assessment of the Potential Consequences of Climate Variability and Change*, November, <http://www.usgcrp.gov/usgcrp/nac/climate.html>.
- 112 Randol, Bush team for IPCC negotiations.
- 113 Revkin, A., 2002, U.S. sees problems in climate change, *New York Times*, June 3.
- 114 Ebell, M., 2002, of the Competitive Enterprise Institute, email to Philip Cooney, Chief of Staff, U.S. Council on Environmental Quality, June 3. For full text of the memo, see Appendix C of this report.
- 115 Ibid.
- 116 CBS News, 2002, Bush denies global warming report, June 4, <http://www.cbsnews.com/stories/2002/06/04/cbsnmain510520.shtml>.
- 117 Ebell, email to Cooney.
- 118 Doggett, T., 2003, Whitman resigns as chief of U.S. environment agency, *Nature*, May 21.
- 119 Ebell, email to Cooney.
- 120 Competitive Enterprise Institute, 2003, Group plans to enforce sound science law, press release, August 6.
- 121 Rowe, S. (Maine Attorney General), 2003, Maine, Connecticut AGs call on Ashtabuck to investigate White House role in lawsuit: Email conspiracy between White House and conservative think tank, August 11, http://www.maine.gov/agpress_release_pop_up.php?prn_id=167.
- 122 Ibid.
- 123 ExxonMobil Corporation, 2002, Worldwide Contributions. See also Mooney, Some like it hot.
- 124 Taxpayers for Common Sense, 2006, Analysis of Oil and Gas Spending in Energy Policy Act of 2005.
- 125 Center for Responsive Politics, Jay Barton career profile (since 1989), <http://opencrunch.org/politics/investigation/memoary.aspx?CID=N00005656>, accessed November 27, 2006.
- 126 Hearing before the Energy and Air Quality Subcommittee of the House and Commerce Committee, 2001, National Energy Policy Call, March 14, <http://energycommerce.house.gov/107Hearings/01/142001hearing%20air.htm>.
- 127 Hearings before the Oversight and Investigations Subcommittees of the House and Commerce Committee, 2006, Questions surrounding the "hooky stick temperature studies: Implications for climate change assessments, July 19 and July 27. Transcripts to be posted <http://energycommerce.house.gov/108/Hearings/07192006hearing1987/hearing.htm> and <http://energycommerce.house.gov/108/Hearings/07272006hearing2001/hearing.htm>, respectively.
- 128 Former Exxon CEO Lee Raymond served nearly 20 years as a member of the API Board of Directors, including two terms as chairman. On October 16, 2006, he was awarded APPI gold medal for distinguished achievement. American Petroleum Institute, 2006, API 2006 Gold Medal for Distinguished Achievement, press release, October 16, <http://www.api.org/api/107Newsroom/api-gold-medal.asp>.
- 129 Mooney, Some like it hot.
- 130 Elperin, J., 2005, GOP chairman faces off on global warming, *Washington Post*, July 18, <http://www.washingtonpost.com/wp-dyn/content/article/2005/07/17/AR2005071701056.html>.
- 131 Center for Responsive Politics, Detailed commercial breakdown, 2000 election cycle, <http://disclosurecenter.org/disclosureprofile.asp?id=N00005820&cycle=2006> & page 201. See also Oil Change International, Separation of oil and state, <http://oilchange.org/oilchange/index>, accessed November 20, 2006.
- 132 ExxonMobil, Climate change, http://www.exxonmobil.com/en/Europe/English/Climates/Eu_VP_Climate.asp, accessed November 15, 2006.
- 133 Adam, D., 2006, Royal Society tells Exxon: Stop funding climate change denial, *Guardian Unlimited*, September 20, <http://environment.guardian.co.uk/climatechange/story/0,,1876538,00.html>.
- 134 ExxonMobil Corporation, 2005, Corporate Citizenship Report, Environmental Performance, http://www.exxonmobil.com/CorporateCitizenship/CCRS/environmental_performance.asp.
- 135 Union of Concerned Scientists, 2004, *Creating jobs, Saving energy and protecting the environment: An analysis of the potential benefit of investing in efficient cars and trucks*. Cambridge, MA, <http://www.unionofconcernedsScientists.org/wholeself/BenefitsJobs.pdf>; Union of Concerned Scientists, 2005, *Rewriting America's economy: A 10% national renewable electricity standard will create jobs and save consumers money*. Cambridge, MA, <http://www.unionofconcernedsScientists.org/electricity/benefitrewritingamericas-economy.html>.
- 136 Investor Network on Climate Risk, 2006, Concerned that ExxonMobil's handling of climate change lays behind other competitors. U.S. institutional investors seek meeting with Exxon board, press release, May 18, <http://www.incn.org/news/items.php?id=179>.
- 137 Investor Network on Climate Risk, 2006, Letter to Michael Bookin, ExxonMobil Corporation, May 15, http://www.incn.org/sites/default/files/INCR_Letter_XOM_051806.pdf.
- 138 Investor Network on Climate Risk, Concerned that ExxonMobil's handling of climate change.
- 139 British Petroleum, BP and climate change, <http://www.bp.com/aboutus/destiny.asp?cid=4529&navid=20174604>, accessed November 20, 2006.
- 140 Shell, About Shell renewables, http://www.shell.com/renewables/PanoramaWhiteIslandsRtC2-3-on-ArcticOffshoreEnergyInvestment.html#_ftoc_toc4302.html; http://www.shell.com/renewables/InvestmentWhiteIslands_en_0725.html, accessed November 20, 2006.
- 141 ExxonMobil Corporation, 2005, Summary Annual Report, <http://exxonmobil.com/corporate/citizenship/2005.pdf>, accessed November 3, 2006.
- 142 Information obtained from ExposeExxon website at <http://www.ExposeExxon.org>, accessed November 29, 2006.
- 143 Ibid.
- 144 Vidal, G., 2005, Revealed: How oil giant influenced Bush, *Guardian*, June 8, <http://www.guardian.co.uk/world/2005/jun/08/102681.00.html>.
- 145 For a helpful review of climate change science, see <http://www.pewclimate.org/TheLatestIntergovernmentalPanelOnClimateChangeprojectionsfor21stcenturyaverageglobaltemperatureincreaseis2-to-10degreesFahrenheit,baseduponmultipleclimatemodelsandarangeofassumptionsregardingfuturegreenhousegasheat-trappingemissions.Regionalwarmingmaybegreaterorlessthanthe globaleverage.For example,temperaturesincreasesintheUnitedStatesareprojectedtobesignificantly30percentgreaterthanthe globaleverageandthesouthislikelytoexperienceothegreatestwarming>
- 146 See, for instance, Intergovernmental Panel on Climate Change (IPCC), 2001, *The Science of Assessment*, Report, Vol. 2, Impacts, Adaptation and Vulnerability, <http://www.bco.gc.ca/doc/NationalAcademyofSciences/TheNationalAssessment>, <http://www.usgs.gov/govinfo/haci/climate.html>, accessed December 10, 2006.
- 147 Intergovernmental Panel on Climate Change, *Third Assessment Report*, 2001, Vols. 1-4. The specific scientific summaries are available at <http://www.grida.no/climate/ipcc/>, accessed December 10, 2006.
- 148 The White House letter, dated May 11, 1991, was signed by John M. Bridgeland, Deputy Assistant to the President for Domestic Policy, and Gary Edson, Deputy Assistant to the President for International Economic Affairs.
- 149 National Academy of Sciences, Commission on Geosciences, Environment and Resources, 2001, *Climate Change Science: An Analysis of Some Key Questions*, <http://www.nas.edu/pubs/earth/10139.html>, accessed December 10, 2006.
- 150 The National Academies, Joint science academy statement: The eleven academies include Brazil, Canada, China, France, Germany, Great Britain, India, Italy, Japan, Russia, and the United States.
- 151 Hearing before the Oversight and Investigations Subcommittees of the House Energy and Commerce Committee, July 27, 2006.

- 172 *Science*, 2001, An unfortunate u-turn on carbon, editorial, March 30, <http://www.sciencemag.org/cgi/content/full/291/5513/2515>, accessed November 29, 2006.
- 173 Orvieto, N., 2004, Beyond the ivory tower: The scientific consensus on climate change, *Science*, December 3.
- 174 The organizations in this table have received at least one grant from ExxonMobil (1998 to 2005 ExxonMobil corporate reports). In each case, a portion of ExxonMobil's donations has been designated specifically for climate work or the funded organization has conveyed misleading information on global warming. However, this table may not contain all groups ExxonMobil funds that convey false or misleading information on climate science.
- 175 Total ExxonMobil funding for each organization is calculated by adding all of its grants, as reported in ExxonMobil corporate reports from 1998 to 2005.
- 176 For example, see Tien, R., 2003, Forget about changing weather—just adapt, *The Star*, December 29 and Tien, R., 2005, Economists, not climate, the key, *Business Day*, May 17, <http://www.fightingmalaria.org>, accessed December 6, 2006.
- 177 Where significance is represented as a proportion of a group's annual expense, this number was calculated by comparing "total expenses" as reported in the organization's IRS 990 tax return for a given year to ExxonMobil's donation in that year, as reported in ExxonMobil Corporation's giving reports. Because giving reports did not always note grant details, some percentages may reflect multiyear grants.
- 178 Better Business Bureau Wise Giving Alliance, Charity Report for The American Council for Science and Health, Inc. September 2006, <http://charityreport.bbb.org/PublicReport.aspx?CharityID=1996>, accessed December 4, 2006.
- 179 American Enterprise Institute for Public Policy Research, Board of Trustees, <http://www.aei.org/about/board/20038142214500073/default.asp>, accessed December 4, 2006.
- 180 Bradley, R., 2004, *Climate Alarmism Reconsidered*, London: Institute of Economic Affairs, November 17, <http://www.iea.org.uk/record.jsp?type=publication&ID=218>, accessed December 4, 2006.
- 181 Annapolis Center website, <http://www.annapoliscenter.org>, accessed December 7, 2006.
- 182 Robert C. Balling served as director of the ASU Office of Climatology from 1989 to 2004. ASU History of the School of Geographical Sciences, <http://geography.asu.edu/hist/index.php>, accessed December 4, 2006.
- 183 See, for example, Atlantic Legal Foundation, 2006, Atlantic Legal Foundation files Amicus brief with Supreme Court in important environmental case, October 25, <http://www.atlanticlegal.org/newsroom.php?id=171>, accessed December 6, 2006. The Amicus brief is available online at <http://www.coi.org/05572.pdf>, accessed December 6, 2006.
- 184 FreedomWorks, 2004, Citizens for a Sound Economy (CSE) and Empower America merge to form FreedomWorks, press release, July 22, http://www.freedomworks.org/newsroom/press_templates.php?press_id=883, accessed December 6, 2006.
- 185 FreedomWorks, Global Warming: Issue Homepage, http://www.freedomworks.org/information/issue_templates.php?issue_id=22, accessed December 5, 2006.
- 186 General information about the Congress of Racial Equality from <http://GuideStar.org> (registration required), accessed December 4, 2006.
- 187 Weiss, E., 2006, Firms donated to groups that gave judges free trips, *Washington Post*, May 25.
- 188 Lee, Exxon backs groups.
- 189 Tech Central Science Foundation, 2004 IRS 990 form.
- 190 Balunas's fellowship description mentions global warming work at the Hoover Institution. Harvard-Smithsonian Center for Astrophysics, CFA Almanac, March 1994, <http://cfa-www.harvard.edu/cfa/almanac/0294.html>, accessed December 6, 2006. Singer references his Wesson Fellowship in a *Washington Post* letter to the editor on February 12, 2001, <http://www.hearstonline.com/content/stories/obj/scholarship/index.cfm?id=6137&method=full>.
- 191 Lindenwood University, Institute for Study of Economics and the Environment, http://www.lindenwood.edu/academic/institute_links.asp, accessed December 7, 2006.
- 192 Leggett, D., 2006, *Climate Science: Climate Change and Its Impact*. Dallas, TX: National Center for Policy Analysis, May 17, <http://www.ncpa.org/publications/285/>, accessed December 7, 2006.
- 193 EnviroTruth, <http://envirotruth.org/index2.html>, accessed December 4, 2006. The website was offline for editing and updating.
- 194 Milroy is cited as the director of science policy studies in a description of his 1995 Cato-published book, *Science Without Sense*, <http://www.cato.org/research/risk-at.html>, accessed December 6, 2006.
- 195 National Environmental Policy Institute, 2000 IRS 990 and NEPI fact sheet on the ExxonSecrets.org website, <http://www.exxonsecrets.org/html/engfactsheet.php?id=56>, accessed December 4, 2006.
- 196 Science and Environmental Policy Project, About SEPP, <http://www.sepp.org>, accessed December 5, 2006.
- 197 About TCS Daily at <http://www.tcsdaily.com/about.asp>, accessed November 30, 2006.
- 198 The Center for Responsive Politics lists ExxonMobil as a client of the DCI Group at <http://opensecrets.org/lobbyinfo/firmum.asp?trname=DCI+Group&year=2005>, accessed December 4, 2006.
- 199 Weidenbaum, M., 1997, What should we do about global warming? *Intellectual Ammunition*, November 1, <http://www.heartland.org/article.cfm?articleid=622>, accessed December 5, 2006.
- 200 Annapolis Center for Science Based Public Policy, Science and Economic Advisory Council, <http://www.annapoliscenter.org>, accessed December 6, 2006.
- 201 Committee for a Constructive Tomorrow, Academic and Scientific Advisory Board, <http://www.ccm.org/leadership.asp>, accessed December 6, 2006.
- 202 Balunas, S.L., 1998, *Hot Times or Hot Air: The Sun in the Science of Global Warming*. Washington, DC: Competitive Enterprise Institute, August 7, http://www.cei.org/news/014_01521.cfm, accessed December 6, 2006.
- 203 George C. Marshall Institute, Sallie Balunas, <http://www.marshall.org/press.php?id=38>, accessed December 6, 2006.
- 204 George C. Marshall Institute, About the George C. Marshall Institute, cached online at <http://web.archive.org/web/20010205195202/marshall.org/about.html>, accessed December 7, 2006.
- 205 Balunas, S.L., The cold facts on global warming, Washington, DC: Global Climate Coalition, cached online at <http://web.archive.org/web/20030607184234/globalclimate.org/gcic/00-0001-Balunas.htm>, accessed December 7, 2006.
- 206 Balunas, S.L. and W. Soon., 2000, The rains of Ranchipaz, *Environment News*, Washington, DC: The Heartland Institute, March 1, <http://www.heartland.org/article.cfm?articleid=9842&CRD=852705&CFID=44833865>, accessed December 6, 2006.
- 207 Balunas, S.L., 2002, Warming up to the truth: The real story about climate change, Washington, DC: Heritage Foundation, August 22, <http://www.heritage.org/Research/EnergyandEnvironment/HL758.cfm>, accessed December 6, 2006.
- 208 See Harvard-Smithsonian Center for Astrophysics, CFA Almanac, March 1994, <http://cfa-www.harvard.edu/cfa/almanac/0294.html>, accessed December 6, 2006.
- 209 Tech Central Station, Round Table Members, <http://www.techcentralstation.com/sciencemundable.html>, accessed December 6, 2006.
- 210 Michaels, P.J. and R.C. Balling., 2000, *The Satan's Gases: Clearing the Air About Global Warming*. Washington, DC: Cato Institute.
- 211 Committee for a Constructive Tomorrow, Academic and Scientific Advisory Board.
- 212 Policy Experts, a product of The Heritage Foundation, <http://www.policyexperts.org/>, accessed December 7, 2006.
- 213 Balling, R., 2002, The global warming scapegoat, London: International Policy Network, October 31, http://www.policynetwork.net/main/article.php?article_id=406, accessed December 6, 2006. See also, Balling, R., 2002, Extreme weather events perceived but not observed, London: International Policy Network, October 28, http://www.policynetwork.net/main/article.php?article_id=402, accessed December 6, 2006.
- 214 Tech Central Station, Round Table Members.
- 215 Bailey, R., 2002, Global warming and other eco-myths, Competitive Enterprise Institute, http://www.cei.org/news/019_03293.cfm, accessed on December 6, 2006.
- 216 Independent Institute, Publications, http://www.independent.org/publications/policy_reports/detail.asp?type=full&id=5, accessed December 7, 2006.

- [illegible]

National Headquarters
Two Brattle Square
Cambridge, MA 02238-9105
Phone: (617) 547-5552
Fax: (617) 864-9405

Website: www.ucsusa.org

West Coast Office
2297 Shattuck Ave., Ste. 202
Berkeley, CA 94704-1567
Phone: (510) 843-1832
Fax: (510) 843-3785

Email: ucw@ucsusa.org

Washington, DC Office
1707 H St. NW, Ste. 600
Washington, DC 20006-3942
Phone: (202) 223-6133
Fax: (202) 223-6162



**Union of
Concerned
Scientists**

ATMOSPHERE OF PRESSURE

Political Interference in Federal Climate Science

Timothy Donaghy
Jennifer Freeman
Francesca Grifo
Karly Kaufman
Tarek Maassarani
Lexi Shultz

Union of Concerned Scientists
Government Accountability Project

FEBRUARY 2007

© 2007 Union of Concerned Scientists and
the Government Accountability Project
All rights reserved.

The Union of Concerned Scientists is the leading
science-based nonprofit working for a healthy
environment and a safer world.

The UCS Scientific Integrity Program mobilizes scientists
and citizens alike to defend science from political interference
and restore scientific integrity in federal policy making. More
information about UCS and the Scientific Integrity Program
is available online at www.ucsusa.org/scientific_integrity.

The Government Accountability Project (GAP) is the nation's
largest whistleblower organization. GAP attorneys and
organizers assist whistleblowers in taking their evidence of
wrongdoing to appropriate government agencies, committees,
and officials to investigate, expose, and rectify the problems
they have identified. More information about GAP is avail-
able online at www.whistleblower.org.

The full text of this report is available on the UCS website
(www.ucsusa.org/publications) or may be obtained from

UCS Publications
2 Brattle Square
Cambridge, MA 02238-9105

Or email pubs@ucsusa.org or call (617) 547-5552.

DESIGN: David Gerratt/DG Communications
PHOTOS: iStockphoto.com



Printed on 100% post-consumer, process chlorine-free,
recycled paper using vegetable-based inks.

Contents

Figures	iv
Acknowledgments	v
Contributors	vi
Executive Summary	1
1. Introduction	6
2. Background on Federal Climate Research	7
History	7
Organization	7
Funding	10
3. Documented Incidents of Political Interference	11
4. Research Methods	15
UCS: Climate Scientist Survey	15
GAP: Interviews with Climate Scientists	16
5. UCS Survey Results	19
Political Interference	19
Barriers to Communication	24
Inadequate Funding	26
Poor Morale	26
6. GAP Investigation Results	29
Media Policies	29
Scientific Communication with Congress	36
7. Discussion	38
8. Recommendations and Conclusions	42
References	45
Appendices	48
A: UCS Climate Scientist Survey Text and Responses (Federal)	
B: UCS Climate Scientist Survey Text and Responses (NCAR)	
C: Selected Survey Results	
D: Model Media Policy	
E: Edits to Congressional Communications by Government Staff	

Figures

1. Organization of Federal Climate Research	8
2. Climate Change Science Program Budget, by Agency	10
3. Survey Response Data, by Agency	15
4. Survey Demographics	17
5. Political Interference in Federal Climate Science	21
6. Political Interference on Controversial Issues	23
7. Comparing the Impact of NASA and NOAA Scientific Openness Policies	25
8. Funding and Quality of Federal Climate Research	26
9. A Deteriorating Environment for Federal Climate Research	27
10. Increased Dissatisfaction for Climate Scientists	27
11. Morale within Climate Research Offices	28
12. NOAA Review Process Flowchart	32

Acknowledgments

This report was made possible by the financial support of The William and Flora Hewlett Foundation, Beldon Fund, Open Society Institute, Streisand Foundation, Mendel McCormack Fund of the Tides Foundation, and The David and Lucile Packard Foundation.

This report would not have been possible without the valuable input, through both survey responses and interviews, of hundreds of climate scientists within the federal government and the National Center for Atmospheric Research. We would like to express our deep gratitude to these scientists for taking the time to share their experiences with us.

UCS would like to thank Brenda Ekwurzel for her insight and wisdom, Heather Tuttle for her masterful editing, Michael Halpern for his helpful comments and advice, and David Gerratt for layout and design.

Tarek Maassarani of the Government Accountability Project (GAP) would like to acknowledge Richard Ewenstein, Oveta Walker, Kent Mackzum, and Athena McMahon for their incredible assistance with the investigation, as well as Tom Devine and the GAP board for giving him the opportunity and support to take on this exciting project.

The opinions expressed in this report do not necessarily reflect the opinions of the foundations that supported our work, or the individuals who reviewed and commented on our report. Both the opinions and the information contained herein are the sole responsibility of the authors.

Contributors

Timothy Donaghy is an analyst in the UCS Scientific Integrity Program. He holds a Ph.D. in physics from the University of Chicago.

Jennifer Freeman is a science writer and consultant to the UCS Scientific Integrity Program. She holds an MBA from Columbia University.

Francesca Grifo is the senior scientist and director of the UCS Scientific Integrity Program. She holds a Ph.D. in botany from Cornell University.

Karly Kaufman is the legislative assistant for the UCS Scientific Integrity Program. She holds a B.S. in environmental policy analysis from the University of California, Davis.

Tarek Maassarani, now a Westwood Fellow at the Neighborhood Legal Services Program, recently served as a staff attorney and lead investigator for the Government Accountability Project. He holds a master's degree in international affairs from Columbia University and a law degree from Georgetown University.

Lexi Shultz, now the Washington representative for climate policy at UCS, recently served as the Washington representative for the UCS Scientific Integrity Program. She holds an environmental law degree from Pace Law School.

About the Union of Concerned Scientists

The Union of Concerned Scientists (UCS) is the leading science-based nonprofit working for a healthy environment and a safer world. UCS combines independent scientific research and citizen action to develop innovative, practical solutions and secure responsible changes in government policy, corporate practices, and consumer choices. UCS was founded in 1969 by faculty members and students at the Massachusetts Institute of Technology who were concerned about the misuse of science and technology in society. From that beginning, UCS has become a powerful voice for change.

The UCS Scientific Integrity Program recognizes that the United States has an impressive history of investing in scientific research and respecting the independence of scientists. As a result, Americans have enjoyed sustained progress in economic and public health, as well as unequalled leadership within the global scientific community. An unprecedented level of political interference, however, threatens the integrity of government science. Because policy makers depend on impartial research to make informed decisions, UCS is mobilizing scientists and citizens alike to push for reforms that will protect our health, safety, and environment.

About the Government Accountability Project

The Government Accountability Project (GAP) is the nation's leading whistleblower protection organization. GAP was founded in 1977, in the wake of the Pentagon Papers scandal, as a project of the Institute for Policy Studies. It has been a lifeboat for more than 3,000 citizen activists providing a range of services including legal information, referrals, counseling, advocacy, litigation, legislative affairs, and media advice. GAP has also been a driving force in many legislative advances in whistleblower protection, including the Sarbanes-Oxley Act of 2002 and the Whistleblower Protection Act of 1989.

GAP has developed in-house expertise in several areas such as promoting corporate accountability, strengthening the rights and protections of whistleblowers, ensuring safe and cost-effective cleanup at nuclear weapons facilities, increasing food and drug safety, enforcing environmental protection laws, seeking better protection for whistleblowers internationally, and curtailing national security abuses. To assist whistleblowers, GAP attorneys and organizers seek to galvanize a public response to the issue, and take whistleblowers' evidence of wrongdoing to appropriate government agencies, congressional committees, and others on Capitol Hill to investigate, expose, and rectify the problems they have identified.

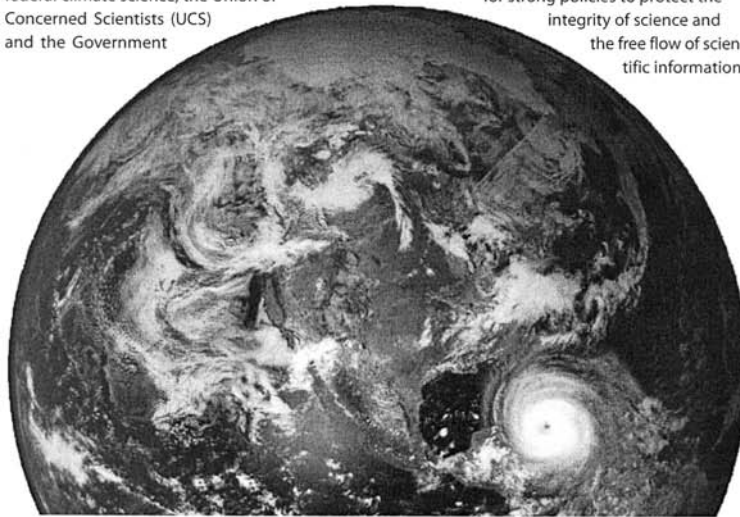
Executive Summary

Federal climate science research is at the forefront of assessing fundamental causes of global warming and the future dangers it could pose to our nation and the world. Such research is of tremendous value to many Americans planning for these risks, including coastal communities designing infrastructure for protecting against storm surges; civil authorities planning for heat waves; power companies preparing for higher peak energy demands; forest managers planning wildfire management programs; ski resort owners investing in snow-making equipment; and policy makers evaluating energy legislation. Therefore, it is crucial that the best available science on climate change be disseminated to the public, through government websites, reports, and press releases. In recent years, however, this science has been increasingly tailored to reflect political goals rather than scientific fact.

Out of concern that inappropriate political interference and media favoritism are compromising federal climate science, the Union of Concerned Scientists (UCS) and the Government

Accountability Project (GAP) undertook independent investigations of federal climate science. UCS mailed a questionnaire to more than 1,600 climate scientists at seven federal agencies to gauge the extent to which politics was playing a role in scientists' research. Surveys were also sent to scientists at the independent (non-federal) National Center for Atmospheric Research (NCAR) to serve as a comparison with the experience of federal scientists. About 19 percent of all scientists responded (279 from federal agencies and 29 from NCAR). At the same time, GAP conducted 40 in-depth interviews with federal climate scientists and other officials and analyzed thousands of pages of government documents, obtained through the Freedom of Information Act (FOIA) and inside sources, regarding agency media policies and congressional communications.

These two complementary investigations arrived at similar conclusions regarding the state of federal climate research and the need for strong policies to protect the integrity of science and the free flow of scientific information.



Political Interference with Climate Science

The federal government needs accurate scientific information to craft effective policies. Political interference with the work of federal scientists threatens the quality and integrity of these policies. As such, no scientist should ever encounter any of the various types of political interference described in our survey questions. Yet unacceptably large numbers of federal climate scientists personally experienced instances of interference over the past five years:

- Nearly half of all respondents (46 percent of all respondents to the question) perceived or personally experienced pressure to eliminate the words “climate change,” “global warming,” or other similar terms from a variety of communications.
- Two in five (43 percent) perceived or personally experienced changes or edits during review that changed the meaning of scientific findings.

“I believe the line has been crossed between science informing public policy and policy manipulating the science (and trying to influence its outcome). I have personally experienced this manipulation in the area of communicating the science many times.”

— A SCIENTIST AT THE EPA

- More than one-third (37 percent) perceived or personally experienced statements by officials at their agencies that misrepresented scientists’ findings.
- Nearly two in five (38 percent) perceived or personally experienced the disappearance or unusual delay of websites, reports, or other science-based materials relating to climate.

- Nearly half (46 percent) perceived or personally experienced new or unusual administrative requirements that impair climate-related work.
- One-quarter (25 percent) perceived or personally experienced situations in which scientists have actively objected to, resigned from, or removed themselves from a project because of pressure to change scientific findings.
- Asked to quantify the number of incidents of interference of all types, 150 scientists (58 percent) said they had *personally experienced* one or more such incidents within the past five years, for a total of *at least* 435 incidents of political interference.

The more frequently a climate scientist’s work touches on sensitive or controversial issues, the more interference he or she reported. More than three-quarters (78 percent) of those survey respondents who self-reported that their research “always” or “frequently” touches on issues that could be considered sensitive or controversial also reported they had personally experienced at least one incident of inappropriate interference. More than one-quarter (27 percent) of this same group had experienced six or more such incidents in the past five years.

In contrast to this evidence of widespread interference in climate science at federal agencies, scientists at the independent National Center for Atmospheric Research (NCAR), who are not federal employees, reported far fewer instances of interference. Only 22 percent of all NCAR respondents had personally experienced such incidents over the past five years.

Barriers to Communication

Federal scientists have a constitutional right to speak about their scientific research, and the American public has a right to be informed of the findings of taxpayer-supported research. Restrictions on scientists who report findings

contrary to an administration's preferred policies undermine these basic rights. These practices also contribute to a general misunderstanding of the findings of climate science and degrade our government's ability to make effective policies on topics ranging from public health to agriculture to disaster preparation.

The investigation uncovered numerous examples of public affairs officers at federal agencies taking a highly active role in regulating communications between agency scientists and the media—in effect serving as gatekeepers for scientific information.

Among the examples taken from interviews and FOIA documents:

- One agency scientist, whose research illustrates a possible connection between hurricanes and global warming, was repeatedly barred from speaking to the media. Press inquiries on the subject were routed to another scientist whose views more closely matched official administration policy.
- Government scientists routinely encounter difficulty in obtaining approval for official press releases that highlight research into the causes and consequences of global warming.
- Scientists report that public affairs officers are sometimes present at or listen in on interviews between certain scientists and the media.
- Both scientists and journalists report that restrictive media policies and practices have had the effect of slowing down the process by which interview requests are approved. As a result, the number of contacts between government scientists and the news media has been greatly reduced.

Highly publicized incidents of interference have led at least one agency to implement reforms; in February 2006, NASA adopted a scientific

“Policy should be based on sound science; results of science should not be diluted or . . . adjusted to justify policy. This particular Administration has gone beyond reasonable boundaries, on this issue. To be in denial on climate change is a crime against the Nation.”

— A SCIENTIST AT THE USDA

openness policy that affirms the right of open scientific communication. Perhaps as a result, 61 percent of NASA survey respondents said recent policies affirming scientific openness at their agency have improved the environment for climate research. While imperfect, the new NASA media policy stands as a model for the type of action other federal agencies should take in reforming their media policies.

The investigation also highlighted problems with the process by which scientific findings are communicated to policy makers in Congress. One example, taken from internal documents provided to GAP by agency staff, shows edits to official questions for the record by political appointees, which change the meaning of the scientific findings being presented.

Inadequate Funding

When adjusted for inflation, funding for federal climate science research has declined since the mid-1990s. A majority of survey respondents disagreed that the government has done a good job funding climate science, and a large number of scientists warned that inadequate levels of funding are harming the capacity of researchers to make progress in understanding the causes and effects of climate change. Budget cuts that have forced the cancellation of crucial Earth

"Scientists should be free to communicate with the media, rather than having media contacts filtered by 'Public Affairs' officers. This should be an official policy, not a 'wink and nod' policy."

— A SCIENTIST AT NOAA

observation satellite programs were of particular concern to respondents.

Poor Morale

Morale among federal climate scientists is generally poor. The UCS survey results suggest a correlation between the deterioration in morale and the politicized environment surrounding federal climate science in the present administration. One primary danger of low morale and decreased funding is that federal agencies may have more difficulty attracting and keeping the best scientists.

A large number of respondents reported decreasing job satisfaction and a worsening environment for climate science in federal agencies:

- Two-thirds of respondents said that today's environment for federal government climate research is worse compared with 5 years ago (67 percent) and 10 years ago (64 percent). Among scientists at NASA, these numbers were higher (79 percent and 77 percent, respectively).
- 45 percent said that their personal job satisfaction has decreased over the past few years. At NASA, three in five (61 percent) reported decreased job satisfaction.

- 36 percent of respondents from NASA, and 22 percent of all respondents, reported that morale in their office was "poor" or "extremely poor." Among NCAR respondents, only seven percent reported such low levels of morale.

Recommendations

This report has brought to light numerous ways in which U.S. federal climate science has been filtered, suppressed, and manipulated in the last five years. Until this political interference ends, the United States will not be able to fully protect Americans and the world from the dangers of a warming planet. Creating systems to ensure long-term independent and accessible science will require the energies of the entire federal government.

UCS and GAP recommend the following reforms and actions:

- The federal government must respect the constitutional right of scientists to speak about any subject, including policy-related matters and those outside their area of expertise, so long as the scientists make it clear that they do so in their private capacity, and such communications do not take from agency time and resources. Scientists should also be made aware of these rights and ensure they are exercised at their agencies.
- Ultimate decisions about the communication of federal scientific information should lie with scientists themselves. While non-scientists may be helpful with various aspects of writing and communication, scientists must have a "right of last review" on agency communications related to their scientific research to ensure scientific accuracy has been maintained.

- Pre-approval and monitoring of media interviews with federal scientists by public affairs officials should be eliminated. Scientists should not be subject to restrictions on media contacts beyond a policy of informing public affairs officials in advance of an interview and summarizing the interaction for them afterward.
- Federal agencies should clearly support the free exchange of scientific information in all venues. They should investigate and correct inappropriate policies, practices, and incidents that threaten scientific integrity, determine how and why problems have occurred, and make the necessary reforms to prevent further incidents.
- Congress should immediately exert pressure on the Executive branch to comply with its statutory duty under federal law and undertake periodic scientific assessments of climate change that address the consequences for the United States. (The last national assessment was conducted in 2000.)
- Funding decisions regarding climate change programs should be guided by scientific criteria, and must take into account the importance of long-term, continual climate observation programs and models.

The reality of global warming, including the role of heat-trapping gases from human activities in driving climate change, has been repeatedly affirmed by scientific experts. Every day that the government chooses to ignore climate science is a day it fails to protect future generations from the consequences of global warming. Our government must commit to ensuring basic scientific freedoms and support scientists in their endeavors to bring scientific results to the policy arena, scientific fora, and a wide array of other audiences. Addressing climate change is a matter of national preparedness.



CHAPTER 1

Introduction

Climate scientists in the U.S. government are leading experts on global climate change. They are entrusted to observe, analyze, and model our changing planet and convey their findings to other scientists, policy makers, and the public. Federal scientists have reported, however, that their findings are being tailored to reflect political goals rather than scientific fact. Although the reality of global warming has been repeatedly affirmed by scientific experts, our government has been obscuring the state of our knowledge by exaggerating the level of uncertainty in global warming science.

In recent years, there have been a number of high-profile instances in which political appointees in the federal government have manipulated or suppressed scientific findings or censored government research scientists. In 2006, the Union of Concerned Scientists (UCS) and the Government Accountability Project (GAP) independently undertook investigations of federal climate science in order to

investigate whether such interference was widespread or relatively isolated. UCS mailed a questionnaire to more than 1,600 climate scientists at seven federal agencies and the independent (non-federal) National Center for Atmospheric Research. GAP conducted 40 in-depth interviews with federal climate scientists and government officials, and analyzed thousands of pages of government documents obtained through the Freedom of Information Act (FOIA) and inside sources.

These two complementary investigations concluded that the high-profile incidents of political interference are part of a larger pattern of attacks on scientific integrity by the Bush administration. Both investigations also arrived at similar conclusions regarding government politicization of federal climate research, and found a need for strong policies to protect the integrity of science and the free flow of scientific information. This report covers the findings of both the GAP and UCS investigations.



CHAPTER 2

Background on Federal Climate Research

Federal government research into climate change is a large yet decentralized enterprise. Government climate scientists are scattered across several federal departments, programs, and independent agencies. These scientists' development of high-tech, satellite-based Earth observation instruments and sophisticated computer models over the past few decades has contributed to the transformation of the global warming hypothesis into a testable scientific theory. These advances are the result of a significant investment of scientific work and American taxpayer dollars. This section outlines the history, organizational structure, and funding of federal climate research.

History

Scientific research into the nature of global climate change has long been recognized by Congress as a national priority. The U.S. Global Change Research Program (USGCRP) was created as a presidential initiative in 1989 and subsequently codified by Congress in the Global Change Research Act of 1990 (GCRA). The USGCRP provided funding to several government agencies to undertake scientific research into climate change.

The GCRA mandated that the USGCRP and its affiliated agencies prepare periodic scientific assessments of climate change and its likely effects and submit them to Congress, producing "information readily usable by policymakers attempting to formulate effective strategies for preventing, mitigating, and adapting to the effects of global change" (GCRA 2006). The first of these reports, the *National Assessment of the Potential Consequences of Climate Variability and Change*, was published in November 2000.

In 2001, President George W. Bush established the U.S. Climate Change Research Initiative (CCRI), with the goal of refocusing USGCRP resources to study "areas of uncertainty [about global climate change science]" and identifying "priority areas where investments can make a difference" (CCSP 2003). In 2002, the U.S. Climate Change Science Program (CCSP) was formed as a successor to both the USGCRP and the CCRI, thereby becoming responsible for compliance with the requirements of the GCRA. The CCSP is currently led by Acting Director William Brennan, who is also deputy assistant secretary for international affairs at the National Oceanic and Atmospheric Administration.

The CCSP has announced no plans to sponsor research for a second national assessment report, and has instead decided to produce 21 separate "synthesis and assessment" products in order to meet the scientific reporting requirements of the GCRA. The first of these products, *Temperature Trends in the Lower Atmosphere: Steps for Understanding and Reconciling Differences*, was published in April 2006. The CCSP is also responsible for providing an annual report to Congress, *Our Changing Planet*, detailing the status of climate science research and funding. The National Academy of Sciences has convened a committee to provide advice to the CCSP regarding evaluation of its current goals and strategic planning for future priorities.

Organization

We estimate that more than 2,000 government scientists spend at least part of their time researching climate-related issues. The agencies where most of the scientists are employed are:

- National Oceanic & Atmospheric Administration (NOAA)
- National Aeronautics and Space Administration (NASA)
- U.S. Department of Energy (DOE)
- U.S. Department of Agriculture (USDA)
- U.S. Geological Survey (USGS)
- U.S. Environmental Protection Agency (EPA)
- U.S. Department of Defense (DOD)

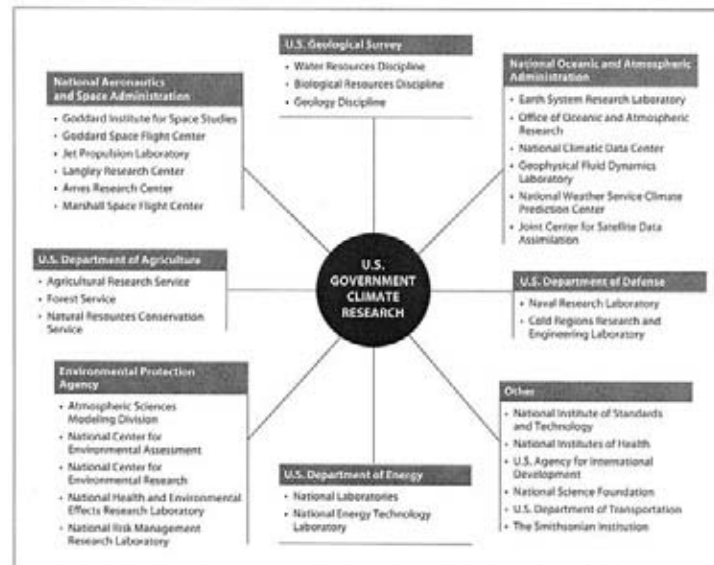
The CCSP is responsible for coordinating climate science research at all of these entities except the DOD, which does not have climate change as a dedicated research program but does fund some climate science research. Climate-related programs also take place at the National

Institute of Standards and Technology (NIST), the National Institutes of Health (NIH), the U.S. Agency for International Development (USAID), the Smithsonian Institution, and the Department of Transportation. The CCSP also coordinates these programs, but they are either smaller research efforts, or are not primarily focused on basic climate science.

Within each federal agency, climate research may take place in a number of discrete departments and laboratories—sometimes dozens of locations within a single agency (see Figure 1).

Federal funding also supports hundreds of climate scientists at academic centers around

FIGURE 1: Organization of Federal Climate Research



NOTE: Climate research is conducted at many other agency departments beyond those listed above, but for space reasons were not included in this chart.

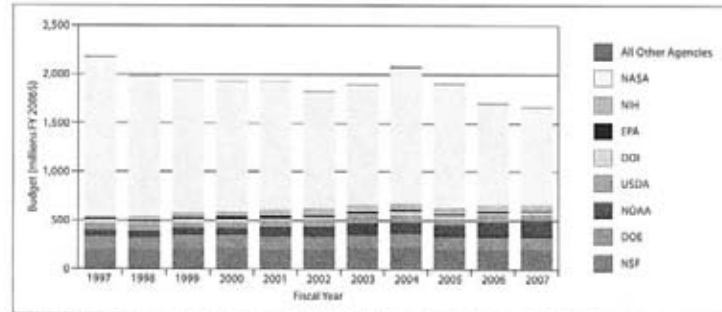
the country. One of the biggest non-governmental climate research centers is the National Center for Atmospheric Research (NCAR), an organization of atmospheric and geoscience researchers who are funded by the National Science Foundation (NSF) but are not government employees.

While it is difficult to briefly summarize the work of large federal agencies, below are examples of the type of climate research several agencies undertake.

- Research at NOAA focuses on developing a “predictive understanding of the global climate system” by observing climate variability and modeling oceanic and atmospheric behavior. NOAA also aims to provide climate-related information “sufficient for making informed and reasoned decisions” to a wide range of policy makers (USGCRP 2006a).
- NASA researchers gather data from space-based Earth observation satellites and use the results to help develop some of the world’s most sophisticated climate models. NASA researchers also use these data to study a wide range of subjects related to global climate change, from clouds to solar irradiance to potential effects of global warming (USGCRP 2006b).
- The DOE, through its Office of Science and national laboratories, conducts research into the “effects of energy production and use on the global climate system, primarily through studies of climate response.” The DOE labs conduct basic and applied climate research, emphasizing new energy and carbon sequestration technologies that could reduce emissions of heat-trapping gases (USGCRP 2006c).
- The USDA’s Agricultural Research Service focuses on how climate affects terrestrial systems, including the water and carbon cycles and species distribution. The goal of this research is to plan for the potential effects of climate change on agricultural and forest systems (USGCRP 2006d).
- The USGS, in the U.S. Department of the Interior (DOI), conducts studies designed to “understand the interactions between climate, Earth surface processes, and ecosystems on time scales ranging from years to millennia.” USGS scientists observe local trends in land use, hydrologic processes, and species diversity, providing information that can be used in climate research (USGCRP 2006e).
- Climate change research at the EPA focuses on “evaluating the potential consequences of global change . . . on air quality, water quality, ecosystems, and human health in the United States” (USGCRP 2006f).
- The DOD does not have a dedicated climate change research program, but does support targeted research that concurrently satisfies its national security mission. DOD climate programs include development of satellite-based observation systems, ocean modeling software, and polar regions research (USGCRP 2006g).



FIGURE 2: Climate Change Science Program Funding, by Agency



NOTE: Budget figures adjusted for inflation. FY 2007 figures represent President Bush's budget request. Data prior to 2001 represent U.S. Global Change Research Program investments. Data source: Office of Management and Budget. Data compiled by the American Association for the Advancement of Science.

Funding

According to the CCSP website, combined federal climate change research programs amount to a "more than \$3 billion annual investment" (CCSP 2006). That total includes funds for technology development, overseen by the Climate Change Technology Program (a parallel organization to the CCSP), such as energy programs designed to reduce reliance on fossil fuels.

President Bush's requested budget for the CCSP alone (not including technology development) for fiscal year (FY) 2007 is approximately \$1.7 billion. As Figure 2 shows, overall funding for the CCSP (when adjusted for inflation) has declined since the mid-1990s. The Bush ad-

ministration has justified its substantial reductions to NASA's climate science budget by highlighting the modest increase of the NOAA budget. However, as the figure clearly shows, the NOAA budget increase does not offset the NASA budget cuts. As reported by the National Research Council (NRC, the principle operating agency of the National Academy of Sciences), funding cuts at NASA will mean canceling or not replacing several of that agency's Earth observation satellites. This will, in the words of the NRC report, cause a "severe deficit" in Earth observation capabilities and compromise the government's ability to "fulfill its obligations in . . . [the] Climate Change Science Program" (NRC 2006).

CHAPTER 3

Documented Incidents of Political Interference

The primary context and motivation for both the UCS and GAP investigations presented in this report were numerous widely reported instances of political interference with federal climate science in the last six years. These instances include the editing of government climate reports by high-level administration officials to amplify uncertainty in the scientific conclusions; delay and/or disappearance of government reports on climate change; denial of media access to prominent climate scientists; changes to agency mission statements to de-emphasize climate research; and congressional hearings seeking to discredit scientific findings on climate change. This section summarizes several of these incidents.

- In 2000, the USGCRP published the *National Assessment of the Potential Consequences of Climate Variability and Change*, a research report that clearly affirmed the reality of global warming. In subsequent years, however, references to the National Assessment were missing from government discussions of climate change including, most importantly, the CCSP's 2003 Strategic Plan. Former CCSP Senior Associate Rick Piltz resigned his position in June 2005, after 10 years of government service, in part to protest such obfuscation.

In his resignation letter, Piltz wrote: "I have not seen a situation like the one that has developed under this administration during the past four years, in which politicization by the White House has fed back directly into the science program in such a way as to undermine the credibility and integrity of the program in its relationship to the research community, to program managers, to policymakers, and to the public interest" (Piltz 2005).

- Documents provided by Piltz and GAP to the *New York Times* indicated that Phillip Cooney, the chief of staff for the White House Council on Environmental Quality (CEQ) and a former lobbyist for the American Petroleum Institute, edited government reports on climate change in ways that inflated uncertainty and cast doubt on scientific findings (Revkin 2005a). Two days after the documents were revealed, Cooney resigned his government position; it was later announced that he had accepted a job with ExxonMobil (Revkin 2005b).
- The 2002 *U.S. Climate Action Report*, prepared by the EPA as a requirement of the United Nations Framework Convention on Climate Change, was unusual for a governmental climate report from the Bush administration in that it explicitly called human activity the cause of climate change and described specific problems that global warming would bring to the United States (Revkin 2002). The report, which recommended adapting to inevitable problems rather than attempting to lower emissions, was approved by all relevant agencies. After it was sent to the United Nations, however, no press release or announcement was made by the administration. When asked about the report by reporters, President Bush dismissed it as "a report put out by the bureaucracy" (Seelye 2002).
- In September 2002, the administration removed a section on climate change from the EPA's annual air pollution report (EPA 2002), even though the topic had been discussed in the report in each of the preceding five years.
- In June 2003, the *New York Times* reported that the White House tried to substantially alter the section on climate change in the

EPA's draft Report on the Environment (Revkin and Seelye 2003). The draft report, referencing numerous scientific studies, stated that human activity is contributing significantly to climate change. Administration officials demanded that the EPA remove reference to a temperature record covering 1,000 years; statements that human activity is contributing significantly to climate change; and a summary statement that "climate change has global consequences for human health and the environment."

According to an internal EPA memo, White House officials demanded so many qualifying words, such as "potentially" and "may," that the result would have been to insert "uncertainty . . . where there is essentially none." Former NOAA official Jerry Mahlman, who served as a reviewer for the EPA report, noted in an interview, "It was obvious that senior EPA officials felt compelled to water down the conclusions" (Mahlman 2006). In the end, the entire section on climate change was deleted from the version of the report released for public comment. According to internal EPA documents and interviews with EPA researchers, agency staff chose this path rather than compromising credibility by misrepresenting the scientific consensus.

- The USDA's Natural Resources Conservation Service (NRCS) was denied a September 2003 request to reprint a popular informational brochure about carbon sequestration in the soil and what farmers could do to reduce emissions of heat-trapping gases. According to one anonymous government official, the brochure was widely viewed as one of the agency's most successful efforts in the climate change field. The NRCS had already distributed some 325,000 of the brochures and sought a modest update, as well as a proposed Spanish edition.

Yet even this relatively routine proposal was passed to the White House CEQ for review; as a result of the CEQ's objections about the brochure, the NRCS dropped its proposal for a reprint (Hohenstein 2004). "It is not just a case of micromanagement, but really of censorship of government information," according to the official. "In nearly 15 years of government service, I can't remember ever needing clearance from the White House for such a thing" (Anonymous USDA official 2004).

- In January 2006, Dr. James Hansen reported to the *New York Times* that NASA officials had attempted to prevent him from speaking about the science behind global warming (Revkin 2006a). At a December lecture, Hansen, the long-time director of NASA's Goddard Institute for Space Studies, had called for drastic reductions in heat-trapping gases linked to climate change. Following his lecture, politically appointed public affairs officials began reviewing and filtering his public statements and press interviews. One appointee resigned after extensive media criticism of his conduct in attempting to silence Dr. Hansen. Said Hansen, "In my thirty-some years of experience in government, I've never seen control to the degree that it's occurring now. I think that it's very harmful to the way that a democracy works. We need to inform the public if they are to make the right decisions and influence policy makers" (Hansen 2006).

In February 2006, Senator Barbara Mikulski (D-MD), citing "allegations that scientists at NASA and NOAA are routinely prevented from reporting their findings on climate change," asked the Government Accountability Office to "undertake a review of the policies and practices of our federal science agencies to ensure openness in communication of federally supported science results" (Mikulski 2006).

- In February 2006, the phrase “to understand and protect the home planet” was removed from the NASA mission statement. A NASA atmospheric chemist commented, “We refer to the mission statement in all our research proposals that go out for peer review. . . . As civil servants, we’re paid to carry out NASA’s mission. When there was that very easy-to-understand statement that our job is to protect the planet, that made it much easier to justify this kind of work” (Revkin 2006b). Some agency scientists expressed concern that the mission statement change presages a shift in priorities (and funding) away from Earth observation and climate change, and toward space exploration.
- The State Department had been maintaining a collection of climate-related materials on <http://usinfo.state.gov>, a website that offers information about topics ranging from economics to human rights. Articles posted to the climate change section of the website had covered new scientific developments, such as “Global Warming Topped Natural Cycles in Fueling 2005 Hurricanes” and “Tropical Ice Cores Show Two Abrupt Global Climate Shifts.” In July 2006, the website was altered so that older climate change articles are no longer collected in one central location, and can only be found through the site’s search function. An archive of newer climate change articles (i.e., articles posted after July 2006) exists on the site, but it contains very few articles and is no longer linked from the site homepage or the page listing prominent topics.
- After Hurricane Katrina, the possible connection between global warming and increased hurricane intensity became a frequent topic of media coverage; the debate focused on whether warmer ocean temperatures, which result in stronger hurricanes, could be attributed to global warming or natural cycles. Some critics have accused NOAA of distorting the ongoing scientific debate on this issue by alerting the media to a prominent article the agency published in its online magazine in November 2005 attributing the upswing in



hurricane activity to a natural multi-decadal cycle (NOAA 2005), while not mentioning other research by NOAA scientists linking increased hurricane intensity to climate change. As reported in the journal *Nature* in September 2006, NOAA declined to publish a fact sheet on Atlantic hurricanes that highlighted the global warming connection (Giles 2006). The *Nature* article quoted NOAA Administrator Conrad Lautenbacher as saying the information "could not be released because the agency cannot take an official position on a field of science that is changing so rapidly," although NOAA had in fact taken such a position on this topic in its November 2005 magazine article.

While the examples described above involved scientists who were U.S. government employees, there have also been notable incidents of interference with climate scientists outside the federal government.

- In June 2005, Representative Joe Barton (R-TX), then chairman of the House Energy and Commerce Committee, disputed climatologist Michael Mann's methods in reconstructing the historical temperature record that appeared in the Intergovernmental Panel on Climate Change's (IPCC) Third Assessment Report. Barton relied on a study published by Steve McIntyre (a mining executive) and Ross McKittrick (an environmental economist) claiming to have discovered flaws in the work of Mann and his colleagues. Barton demanded that Mann and his colleagues provide vast amounts of information to the committee, including a list of all their studies and funding sources, the location of data archives, and information about their use of data, their computer code, and their role in the IPCC (Barton 2005).

In response, the National Academy of Sciences, the American Association for the Advancement of Science, and several members of Congress sent Barton letters express-

ing serious concern about the intimidation of scientists. One such letter came from Representative Sherwood Boehlert (R-NY), former chairman of the House Science Committee. Boehlert's letter was unusually strong in tone for a congressional communication; it stated, "My primary concern about your investigation is that its purpose seems to be to intimidate scientists rather than to learn from them, and to substitute Congressional political review for scientific peer review. This would be pernicious" (Boehlert 2005).

- Senator James Inhofe (R-OK), who has called man-made global warming "a hoax," invited Drs. Willie Soon and Sallie Baliunas to testify at a hearing about their study in the journal *Climate Research*, which claimed that 20th-century global warming is unremarkable compared with other climate shifts. However, this study had been heavily criticized by scientists; its publisher, Dr. Otto Kinne, and an editor (later editor-in-chief), Dr. Hans von Storch, later said that the original peer reviewers "failed to detect methodological flaws" and that after discovering these flaws they thought the paper should not have been published as written (Revkin 2003).

In a September 28, 2005, Senate Environment and Public Works Committee hearing on global warming, Inhofe invited novelist Michael Crichton to testify as an "expert witness." Crichton, whose fiction novel *State of Fear* attempted to discredit global change research, gave testimony that similarly sought to undermine peer-reviewed climate science.

When UCS and GAP began these investigations, it was unclear whether interference such as the incidents described above was widespread or relatively isolated. Unfortunately, the results of our investigations (described in Chapters 5 and 6) demonstrate that these are not isolated incidents but rather part of a larger problem facing climate scientists to varying degrees across the federal government.

CHAPTER 4

Research Methods

UCS and GAP undertook independent yet complementary investigations into the federal climate science environment. Below is a detailed description of the research methods used for these two studies.

UCS: Climate Scientist Survey

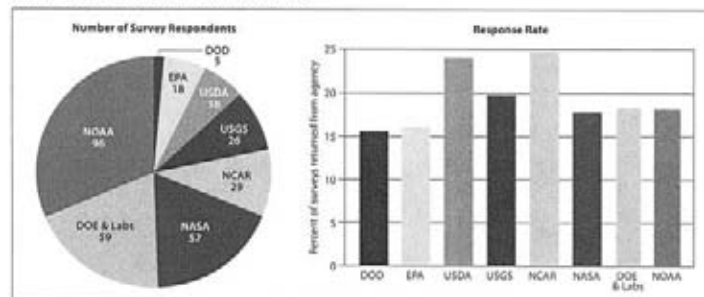
The survey of federal climate scientists covered in this report is the fourth released in a series conducted by the UCS Scientific Integrity Program. Previous surveys have given voice to the concerns of more than 1,500 scientists working at the U.S. Food and Drug Administration, the U.S. Fish & Wildlife Service, and the NOAA Fisheries Service.

In summer 2006, UCS mailed printed surveys to more than 1,600 federal climate scientists throughout the United States, asking for information about the state of climate research at federal agencies. Recipients of this survey were scientists employed by the federal agencies with the highest number of scientists undertak-

ing climate research: the National Aeronautics and Space Administration, National Oceanic and Atmospheric Administration, U.S. Environmental Protection Agency, U.S. Geological Survey, U.S. Department of Agriculture, U.S. Department of Energy, and U.S. Department of Defense. In addition, a similar survey was sent to scientists employed by the National Center for Atmospheric Research (NCAR), which receives federal research funding but is an independent (non-federal) agency. NCAR is shielded from government policies and restrictions and so it served as a "control" in order to quantify the magnitude of political interference at federal agencies.

The survey featured 40 questions, including 39 multiple-choice questions and one open-ended essay question. Survey questions were designed to be easy to comprehend and sought to be as neutral as possible in tone. For data collection purposes, the agency was identifiable in the survey responses but the individual was not (to ensure anonymity).

FIGURE 3: Survey Response Data, by Agency



The mailing list for the federal scientist survey was compiled by gathering information from a variety of sources, as no centralized directory of federal climate scientists exists. UCS first started with a list of federal agencies involved in climate science research, and then searched for staff names through individual agency websites as well as through other government and climate science websites such as the GCRP (www.usgcrp.gov) and IPCC (www.ipcc.ch). The list also included lead authors and reviewers of climate reports and papers, as well as panel participants at scientific conferences. Several experts in the climate science field assisted us with compiling the mailing list.

We were successful in finding email addresses for nearly all of the scientists on our mailing list. To boost the survey response rate, reminder emails were sent two to three weeks after the survey was sent. Since individuals' names were not listed on returned surveys, the reminder was sent to all survey recipients.

Three hundred eight surveys were completed and returned to UCS (279 from federal agencies and 29 from NCAR), for a response rate of 19 percent. The response rate within individual agencies was relatively consistent (see Figure 3 on p. 15), with NCAR having the highest response rate (25 percent) and DOD having the lowest (16 percent). Responses were tabulated by Office Remedies, an independent data services company. One hundred thirty-two federal scientists and 12 NCAR scientists chose to respond to the open-ended essay question, "The integrity of U.S. federal government climate science could best be improved by ..."

Unless otherwise stated, percentages and numbers stated in this report reflect only the responses from the 279 federal agency scientists. A few respondents did not answer every question on the survey, while certain questions were designed to allow more than one response to be chosen. As a result, the number of responses to each question varies slightly. Percentages stated

in this report are calculated based on the number of scientists answering each question, rather than the total number of returned surveys or the total number of responses to each question.

As Figure 4 shows, most survey respondents had extensive training in their fields and many years of experience working at their agencies. More than half of respondents had more than 10 years of experience at their current agencies, and 44 percent had more than 15 years of experience. Eighty percent had earned a Ph.D. and 40 percent had post-doctoral research experience.

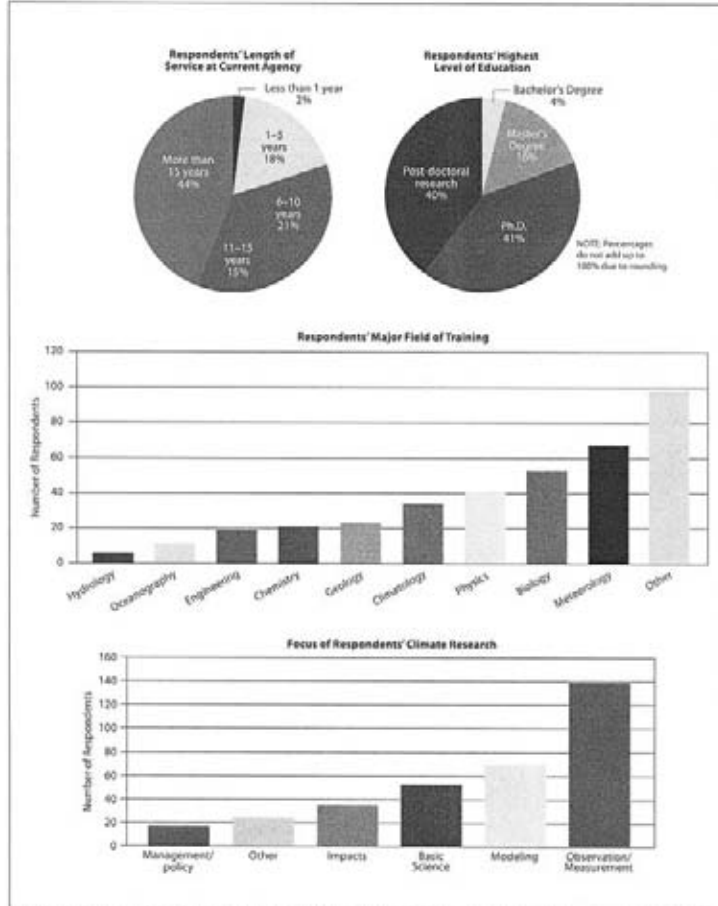
The full text of the surveys mailed to federal and NCAR scientists, along with tabulated responses, can be found located in Appendices A and B. The raw data for the additional analyses presented in this report, including responses to selected questions broken out by respondents' organization and correlated against other question responses, are located in Appendix C.

GAP: Interviews with Climate Scientists

The GAP investigation into the integrity of federal climate science commenced in February 2006. The investigation was prompted by concerns about political interference with federal climate scientists, in particular the allegations of Rick Piltz and James Hansen detailed in Chapter 3. The GAP investigation focused on the effects of restrictive agency media policies and practices, especially those applied to control communication from particular scientists on "sensitive" scientific issues. The investigation also covered efforts to control the communication of scientific information to Congress, the scientific community, and the public.

GAP conducted 40 interviews with climate scientists, communications officers, agency officials, and journalists. These sources—both named and confidential—represent inside perspectives from NOAA, NASA, the CCSP, the EPA, the USGS, and NCAR, as well as local,

FIGURE 4: Survey Demographics

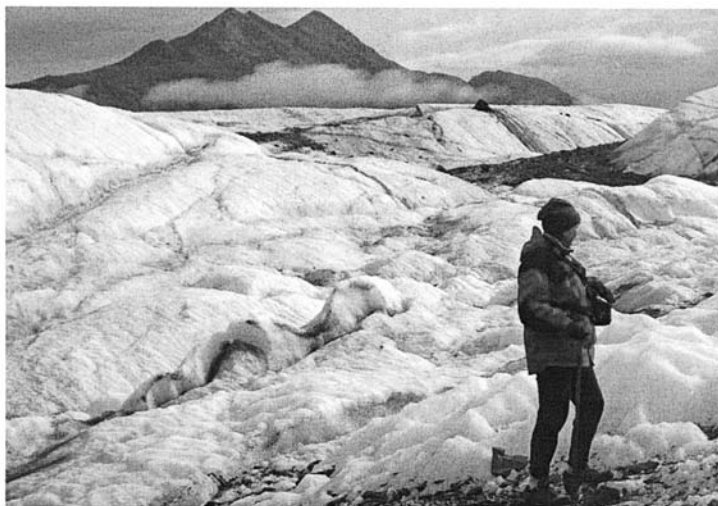


NOTE: Charts reflect demographics for federal climate scientists only. Respondents were able to select more than one choice for Focus of Climate Research and Major Field of Training. Some respondents who listed their major field of training as "other" were distributed into other categories because the field was nearly identical. Enough respondents were in "hydrology" or "oceanography" to warrant creation of those categories in this chart.

national, and international media. Almost half of these interviews were conducted in person during field visits to research or administrative facilities in Boulder, CO (NCAR, NOAA's Global Monitoring Division); Princeton, NJ (NOAA's Geophysical Fluid Dynamics Laboratory); New York, NY (NASA's Goddard Institute for Space Studies); and Silver Spring, MD (NOAA's Office of Oceanic and Atmospheric Research). The remaining interviews occurred by telephone or email. More than a dozen agency and program officials either turned down or did not respond to requests for interviews.

In addition to scientist interviews, GAP reviewed thousands of pages of documentation obtained from Freedom of Information Act (FOIA) disclosures and from internal agency sources. FOIA

requests were submitted in June 2006 to NASA, NOAA, and the EPA asking for any and all communications regarding or containing the words "climate change," "hurricanes," or "global warming;" any documents or communications relating to agency media policies or guidelines; and, in the case of NOAA, documents relating to official agency responses to congressional requests. More than 2,000 pages of documents were obtained from the FOIA disclosures, the vast majority of which were received from NOAA. The NASA request yielded only nine pages of documents, and the EPA allegedly found no relevant documents, despite the broad wording of the request. GAP also reviewed more than 60 published news articles and more than two dozen congressional documents including reports, testimony, and questions for the record.



CHAPTER 5

UCS Survey Results

The UCS survey uncovered evidence for political interference in federal climate science clustered in four broad categories:

- political interference with or misrepresentation of scientific results;
- excessive barriers to communication between scientists and the public, including the news media;
- inadequate levels of funding; and
- poor morale and job satisfaction among federal climate scientists.

Political Interference

Large numbers of federal climate scientists reported that they had perceived in others or personally experienced various types of interference, from the explicit to the subtle:

- Nearly half of all respondents (46 percent)¹ perceived or personally experienced pressure to eliminate the words “climate change,” “global warming,” or other similar terms from a variety of communications. Such pressure was personally experienced by 57 scientists (21 percent of respondents to the question).
- Two in five (43 percent) perceived or personally experienced changes or edits during review that changed the meaning of scientific findings. Such changes were personally experienced by 41 scientists (15 percent of respondents to the question).
- More than one-third (37 percent) perceived or personally experienced statements by officials at their agencies that misrepresented scientists’ findings.

- Nearly two in five (38 percent) perceived or personally experienced disappearance or unusual delay of websites, reports, or other science-based materials relating to climate.

- Nearly half (46 percent) perceived or personally experienced new or unusual administrative requirements that impair climate related work.

- One-quarter (25 percent) perceived or personally experienced situations in which scientists have actively objected to, resigned from, or removed themselves from a project because of pressure to change scientific findings.

These results are summarized in Figure 5 on p. 21; responses to other questions can be found in Appendices A and B.

In response to the survey essay question asking about the best way to improve the integrity of federal climate science, 73 scientists directly called for ending political interference in the work of climate scientists. A selection of these essay responses can be found in the box on p. 20.

Survey respondents were also asked to quantify the number of incidents of interference of all types, either perceived in others or personally experienced, over the past five years. The available choices for the number of incidents were 0, 1–5, 6–10, 11–20, or more than 20. One hundred eighty-eight scientists (73 percent of all respondents to this question) said they had *perceived* one or more such incidents within the past five years, and 150 scientists (58 percent of

¹ Percentages reflect the number of scientists who answered a particular question. Some survey respondents did not answer every question.

THE VOICES OF FEDERAL CLIMATE SCIENTISTS

Many survey respondents used the open-ended essay question to express in their own words their concerns about federal climate science. In response to the question "The integrity of U.S. federal government climate science could best be improved by..." the scientists wrote:

Political Interference

"Remove political pressures that try to make agencies support the administration's agenda. Allow scientific agencies to remain nonpolitical. Allow scientific results to be used as scientific facts instead of political or policy statements."

— A scientist from NOAA

"Keeping political employee appointments completely independent of the scientific research, scientific publication, and scientific communications processes."

— A scientist from NCAR

"A scientific report will now undergo three 'policy' reviews and two 'peer' reviews prior to further peer-review journal reviews. This will not only slow the reporting of results, but the chances are that significant watering-down of results will occur during the three 'policy' reviews by non-specialists."

— A scientist from the USGS

"The perception that... we (climate scientists) might find and write (something that) might be considered controversial is a strong one that comes down from management. It's not clear that there's a real reason for it or what the consequences would be. This perception should be actively discouraged from the highest levels!"

— A scientist from the EPA

"Administration needs to act on the best information, not try to force the information to fit their desired action."

— A scientist from NASA

Barriers to Communication

"Reduced public affairs interference, review, delay, oversight."

— A scientist from NASA

"As of March 2006, there was a marked change in NASA, and I have spoken out freely on climate change, including a NASA-approved press release. I believe scientists at other agencies (e.g. NOAA) still have restrictions."

— A scientist at NASA

"Recently a Bush appointee to the position of Public Information Officer attempted to muzzle Jim Hansen, Director of GISS... the NASA Administrator made it clear that such political meddling would not be tolerated. This was excellent leadership at the top and set the tone for any lower echelons that may not otherwise have been this strong. Michael Griffin is a great improvement over his recent precedents."

— A scientist at NASA

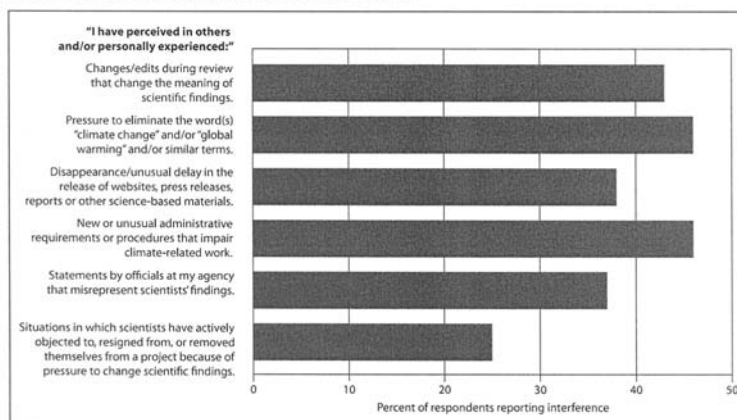
"From what I've heard, NCAR is rare among research institutes in that we are free to communicate our findings. This policy needs to apply to all research institutes and all scientists should be encouraged to communicate their results to the public."

— A scientist from NCAR

"At one point, I specifically asked my division director if there were any censorship policies at NCAR. He emphatically stated that there were none and that if we were ever pressured that we should contact him immediately and he would raise hell to eliminate the pressure."

— A scientist at NCAR

FIGURE 5: Political Interference in Federal Climate Science



all respondents to this question) said they had *personally experienced* one or more such incidents. Considering the low and high ranges for each available response option, those 150 scientists reported personally experiencing a collective total of *at least* 435 incidents of political interference over the past five years, and possibly more than 1,000 incidents.

The rate at which political interference occurs appears to be connected with the subject matter of a scientist's research. Survey results showed that the more frequently a climate scientist's work touches on issues that can be considered sensitive or controversial, the more likely he or she was to report interference; this trend can be clearly seen in Figure 6 on p. 23. More than three-quarters (78 percent) of respondents who self-reported that their research "always" or "frequently" touches on issues that could be considered sensitive or controversial also reported they had personally experienced at least one incident of inappropriate interference. More than one-quarter (27 percent) of this same group had experienced six or more

such incidents in the past five years. Scientists whose research topics could "seldom" be considered sensitive or controversial reported notably less interference; while 60 percent of this group perceived one or more such incidents in others, only 30 percent experienced them.

"U.S. Federal government climate science does not lack integrity. Science assessments, summaries, policy papers sometimes do lack integrity. The best way to improve them would be to ensure they are written by qualified scientists, not by political hacks."

— A SCIENTIST AT THE USGS

THE VOICES OF FEDERAL CLIMATE SCIENTISTS

Many survey respondents used the open-ended essay question to express in their own words their concerns about federal climate science. In response to the question "The integrity of U.S. federal government climate science could best be improved by..." the scientists wrote:

Inadequate Funding

"I believe that climate research at NASA is being undermined by the current administration. This is accomplished not through direct threats of intimidation, but through lack of funding. Several years ago the funding focus [at NASA] was switched from Earth Science to solar system exploration (Moon and Mars). I believe this was done not for solar system exploration, but rather to curtail climate research. The emphasis needs to be switched back to Earth Science."

— A scientist at NASA

"The US Climate Change Science Program has not received sufficient funding for needed observations, monitoring, research, [and] data systems."

— A scientist at the USDA

"Problems with climate research in the federal government mainly have to do with funding. Future funding at my agency is uncertain. Future climate observational programs (crucial ones) are threatened because of lack of funds. New accounting rules at my agency require climate scientists to spend unreasonable amounts of time writing proposals, which has reduced productivity."

— A scientist at NASA

"I have not worked directly on climate change since funding was eliminated in my area. Other areas of much less importance have been emphasized as a result. Which is a tragedy."

— A scientist at the EPA

"Funding for climate research is a factor of 5-10 below critical mass to develop a designed climate observing system."

— A scientist at NASA

"Include a dedicated long-term observing program with stable funding support for about 30 more years. The current satellite program does not meet climate research needs."

— A scientist at NOAA

"US satellite programs are in severe jeopardy. The loss of continuity in observational satellite data will impair progress in climate science"

— A scientist at the USGS

Poor Morale

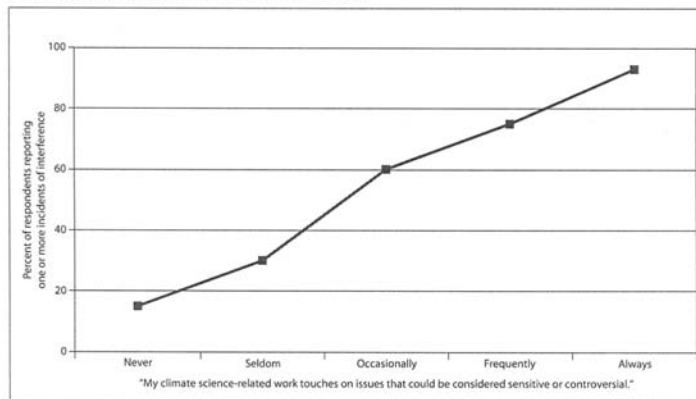
"I am [close to] retirement and feel that I will no longer be able to use my abilities to produce scientific information of relevance to the American public. The last years of my career are being squandered for political reasons. I do not think I will be able to do any more new climate science before I retire. My goal is to get out the results from past research."

— A scientist from the EPA

"Incredible bureaucratization of USGS during Bush era seems intent on crippling our scientific productivity by wasting more of our time and energy on ridiculous and counter-productive 'accountability' procedures, damag[ing] to morale."

— A scientist from the USGS

FIGURE 6: Political Interference on Controversial Issues



This pattern of higher reported levels of interference from scientists working on controversial topics is seen across each of the specific types of interference. In five of the six categories of interference listed in Figure 5 on p. 21, the rate of political interference among scientists who often work on sensitive or controversial issues rises to more than 50 percent. For example, 46 percent of all respondents, but 59 percent of scientists who always or frequently work on sensitive or controversial issues, perceived or experienced pressure to eliminate the words “climate change,” “global warming,” or other similar terms from a variety of communications.

Rates of political interference are also found to be higher among scientists who spend a larger percentage of time on climate-related work. Among respondents who spend more than half their time working on climate science, 63 percent personally experienced at least one incident of political interference in the past five years. This number is smaller (47 percent)

among respondents who spend 50 percent or less of their time working on climate science.

Among respondents from NCAR, reports of incidents such as those described above were much lower than at federal agencies, irrespec-

“Remove the current atmosphere where scientists who report findings truthfully may face consequences if they contradict administration policies.”

— A SCIENTIST AT NOAA

tive of the controversial nature of the scientists’ research. Only 22 percent of all NCAR respondents had personally experienced at least one incident of interference.

ORGANIZATIONAL REFORM

Although not specifically addressed in the survey questionnaire, several scientists critiqued in their essay responses the fact that federal climate science is spread out across several federal agencies and is not the top priority of any single agency. No consensus solution exists among responding scientists; some advocate the creation of a single federal agency dedicated to climate change science, while others recommend strengthening the existing Climate Change Science Program that coordinates the climate work of many federal agencies. Below is a selection of essay responses on this topic.

"The main issue, as we often discuss, is that climate is not the primary mission of any agency, and is done piecemeal as resources permit, by a large collection of US agencies."
— A scientist at NASA

"There is the problem that the U.S. has no national framework for climate change research to guide expenditures or coordinate efforts."
— A scientist at NASA

"Need full-time, Senate-confirmed Director of CCSP/USGCRP."
— A scientist at NASA

"Formation of a US climate agency — no US agency has climate as #1 priority so no agency fails if climate science fails."
— A scientist at NASA

"Creating a separate climate science agency or, at least, assign climate science research to an existing agency. No agency is presently responsible for successfully investigating this critical area of research."
— A scientist at NOAA

"Separating meteorology and climatology organizationally. Moving NOAA out of Dept. of Commerce."
— A scientist at NOAA

None of the seven federal agencies surveyed was entirely free of incidents of political interference, and agencies with the largest numbers of climate scientists reported some of the highest rates of interference. Considering the three agencies with the highest number of climate scientists in the survey, 63 percent of NOAA respondents, 48 percent of DOE respondents, and 60 percent of NASA respondents had personally experienced at least one incident of political interference in the past five years. Notably, more than a quarter of NOAA respondents (27 percent, more than any other agency) had personally experienced pressure to eliminate the words "climate change," "global warming," or other similar terms from their communications.

Barriers to Communication

The UCS survey also investigated whether scientists experienced problems communicating to the public or media. Among all survey respondents, more than a third (39 percent) experienced or perceived "fear of retaliation for openly expressing concerns about climate change outside my agency," and a similar number (38 percent) also perceived or experienced "disappearance or unusual delay in the release of websites, reports, or other science-based materials." More than half (52 percent) said their agencies "always" or "frequently" require public affairs officials to monitor scientists' communications with the media.

These numbers rose among scientists who "always" or "frequently" worked on sensitive

or controversial issues. Fifty-nine percent of respondents in this group perceived or experienced fear of retaliation for expressing their views outside their agencies, and 56 percent perceived or experienced the disappearance of science-based materials. Among NCAR respondents, these numbers were considerably lower. Only seven percent personally experienced the disappearance of science-based materials, or personally experienced fear of retaliation for expressing their views outside NCAR.

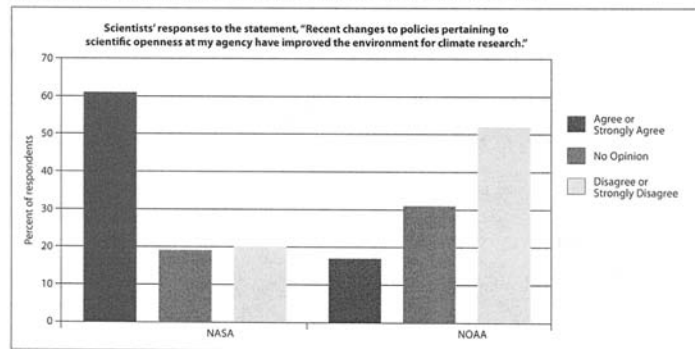
Survey respondents were asked about recent changes in policies pertaining to scientific openness at their agencies. Figure 7 compares the impact of scientific openness policies at NASA and NOAA (both released statements publicizing their scientific openness policies in February 2006, just four months before the surveys were mailed to scientists) as reported by survey respondents. A majority (61 percent) of respondents from NASA agreed that recent changes to policies pertaining to scientific openness have improved the environment for climate research at their agency, in contrast to 17 percent of NOAA scientists who agreed with the statement. Very small numbers of scientists at other federal

“In general, climate change science is continuing at government agencies, and I believe we continue our world-recognized pre-eminence that we had in the 1990’s. However, much of all work continues more clandestinely as we’ve had to amend our project titles and descriptions to get rid of key buzzwords that are not focused [on] by the current Bush administration.”

— A SCIENTIST AT THE USDA

agencies agreed with the statement that changes in scientific openness policies improved the environment for climate research at their agencies, but UCS has not heard about any scientific openness policies implemented by those agencies so they are not included in the comparison here.

FIGURE 7: Comparing the Impact of NASA and NOAA Scientific Openness Policies



Inadequate Funding

Many survey respondents cited funding as a serious problem in today's federal climate science environment. As can be seen from Figure 8, although the vast majority (88 percent) of respondents agreed that federal government climate science was of generally excellent quality, a majority (53 percent) disagreed or strongly disagreed that the U.S. government has done a good job funding climate research. In addition, 40 scientists who responded to the open survey question mentioned insufficient funding as a major barrier to improving the integrity of U.S. climate science (several of these responses are included in the box on p. 22).

Poor Morale

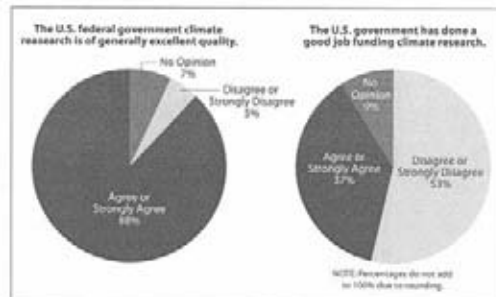
The UCS survey revealed that large numbers of federal climate scientists report low morale and general dismay with the environment for federal climate science. As shown in Figure 9, approximately two-thirds of all respondents thought the environment for federal climate science is worse today than it was 5 years ago (67 percent) and 10 years ago (64 percent). Respondents were evenly split as to whether the environment now was worse than one year ago (42 percent) or whether it was the same (40 percent).

Nearly half of respondents (45 percent) say their personal job satisfaction has decreased over the past few years, and more than half (55 percent) reported "fair," "poor," or "extremely poor" morale within their offices. The connection between decreased job satisfaction and political interference in science was explicit in some essay responses (see box on p. 22).

Survey respondents who spend most of their time working on climate science reported the most negative perceptions of the environment for climate research. Among respondents who spend more than three-quarters of their time working on climate related topics, 50 percent consider today's environment for climate science to be worse compared with one year ago, and 72 percent consider it to be worse compared with five years ago (see Figure 10). A similar, though less pronounced, trend was seen among scientists whose climate research always or frequently touched upon sensitive or controversial topics.

Interestingly, while 61 percent of NASA respondents agreed that "recent changes to policies pertaining to scientific openness at my agency have improved the environment for scientific research," the same percentage also reported decreased job satisfaction over the past few

FIGURE 8: Funding and Quality of Federal Climate Research



years. (Only USGS respondents were more likely to report decreased job satisfaction, at 68 percent). What's more, 57 percent of NASA respondents said that the environment for federal climate science research was worse compared

with one year ago, significantly higher than the 42 percent of all respondents who felt this way. NASA respondents were the most likely to report poor or extremely poor morale in their agency (36 percent).

FIGURE 9: A Deteriorating Environment for Federal Climate Research

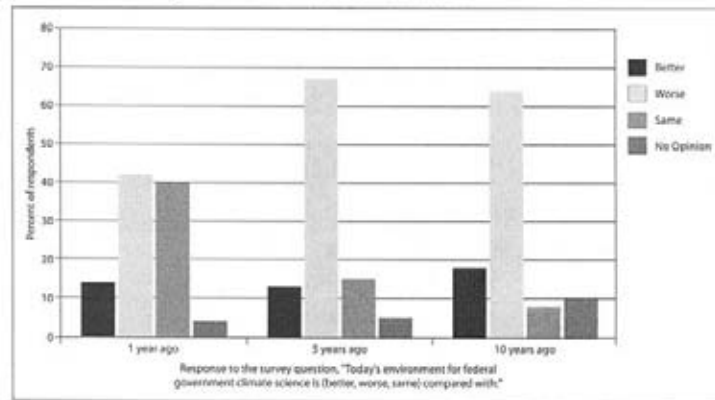


FIGURE 10: Increased Dissatisfaction for Climate Scientists

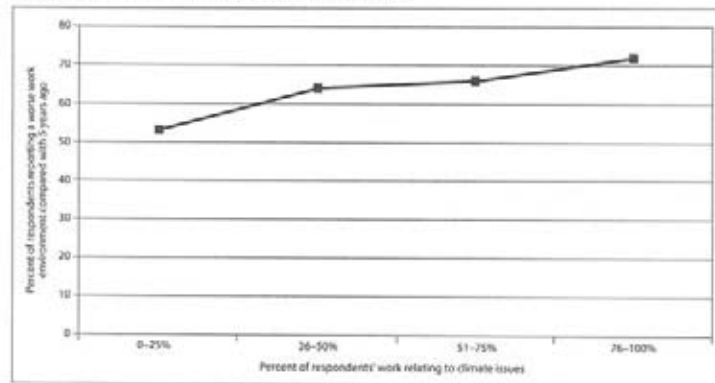
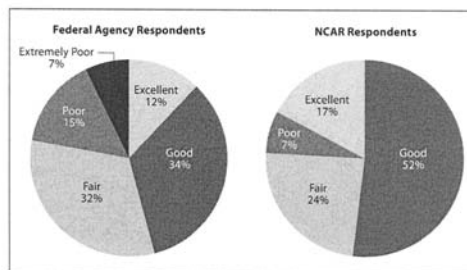


FIGURE 11: Morale within Climate Research Offices



NOTE: No NCAR respondents reported "extremely poor" morale.

Survey responses from NCAR scientists again told a very different story than those from federal agency scientists. Among NCAR respondents, 69 percent described morale as good or excellent; only seven percent reported that morale within their office was poor and no NCAR scientists reported extremely poor morale (see Figure 11). NCAR scientists were also less likely than average (only 39 percent) to report decreased personal job satisfaction over the past few years. In addition, NCAR scientists responded most enthusiastically to the statement, "Climate science at my agency is moving in the right direction." More than 86 percent of NCAR respondents agreed or strongly agreed with this statement, compared with just

47 percent of all federal respondents (and less than a third of respondents at some individual agencies).

Despite low morale, agency scientists generally hold the managers of federal agency scientific research in high regard. More than four in five respondents to the UCS survey (83 percent) agreed or strongly agreed with the statement, "My agency's leadership aspires to and expects a high level of integrity and professionalism." However, only half of respondents (48 percent) said that their management stood behind scientific staff or managers who put forth "scientifically defensible positions that may be politically controversial."

CHAPTER 6

GAP Investigation Results

Through a series of in-depth interviews with climate scientists and other federal officials, and a review of government documents obtained through FOIA requests and inside sources, the GAP investigation uncovered policies and practices at federal agencies that seek to control the communication of scientific findings with both the media and with Congress. The evidence presented in this chapter focuses most heavily on restrictive policies at NOAA, because the greatest number of documents was obtained from that agency (2,000 pages, compared with only nine pages from NASA and zero from the EPA). However, some results are also provided from interviews with scientists at other federal agencies including the EPA, USGS, and NASA.

Media Policies and Practices

The GAP investigation found that federal agencies employ a number of restrictive policies and practices, including:

- **Pre-approval**, when agency public affairs officials (PAOs) must grant permission for any media interviews with scientists;
- **Routing**, when requests for interviews with a particular scientist about a given topic are instead transferred to a different scientist, or restricted in terms of the topics that may be discussed; and
- **Monitoring** of media contacts by PAOs, either in person or over the phone.

Scientists do not waive their first amendment rights by working for a government agency. As such, they should be legally afforded what is termed a “personal views” exception to such restrictive media policies. Such an exception

allows scientists to speak freely so long as they clarify that they are not speaking on behalf of the agency and do not use government time or resources for such personal communications. However, many of the federal media policies discussed in this section do not explicitly provide such an exception and have the effect of limiting media contacts with scientists.

GAP uncovered few restrictions placed on communication between scientists and the media in documents written prior to 2001. A common procedure for media contacts was “notification and recap,” whereby a scientist would inform the public affairs office of an upcoming media interview and then summarize the interview for them afterward (Anonymous NOAA official 2006a). From 2001 through 2004, media policies at NOAA slowly became more restrictive, culminating in the release of an official NOAA-wide media policy by Administrator Conrad Lautenbacher in June 2004. This new media policy gave public affairs offices the ultimate authority over all agency communications and explicitly or implicitly implemented the three types of restrictions outlined above. A similar tightening of media policies and practices was also observed at other federal agencies such as the EPA, USGS, and NASA during this time period.

Examples of Interference

There are many examples where restrictive policies (including those described above) have interfered with the communication of scientists’ research. The following are just a few of these incidents.

PRE-APPROVAL, ROUTING, AND FAVORITISM

The 2004 NOAA media policy implemented top-down control over all press contacts, as

Scientist Silenced on Global Warming and Hurricane Connection

Dr. Thomas Knutson is a NOAA climate modeling expert working with hurricane specialists to investigate the link between climate change and tropical cyclone activity. He has experienced several instances of political interference in his work, which illustrate the power of NOAA's new media policies and practices to control the communication of scientific results.

In September 2004, Knutson published a paper in the *Journal of Climate* suggesting that an increased concentration of carbon dioxide in the atmosphere could lead to more intense tropical cyclones with increased precipitation and flood potential. His paper coincided with the Florida hurricane season and was picked up by the *New York Times*, thereby gaining a tremendous amount of visibility for his research. On July 31, 2005, a study by Dr. Kerry Emanuel was published in the journal *Nature* linking increased hurricane intensity to increased sea-surface temperatures (primarily due to global warming). The anticipation of media requests related to Emanuel's article prompted Erica Rule to remind NOAA employees of the requirements of NOAA's media policy (see p. 31).

That weekend, after returning from a trip, Dr. Knutson received a voicemail from a NOAA public affairs officer named Kent Laborde asking whether he would be interested in appearing on Ronald Reagan, Jr.'s MSNBC talk show to discuss hurricanes and climate change (Knutson 2006). Shortly thereafter, he received a voicemail from the show's production staff. As it was the weekend, Knutson responded directly to the show staffer to confirm his appearance and requested they contact the PAO on Monday morning. That Monday, Laborde left Knutson voicemails apologizing for the confusion and stating that the "White House said no" to Knutson's appearance. Laborde also notified Knutson that he had already called the show and offered as an excuse that Knutson was too tired for the interview after his trip.

The FOIA record shows that instead of approving requests for interviews with Knutson, the NOAA public affairs office routed all media inquiries related to hurricanes and Emanuel's article to Dr. Chris Landsea, another NOAA scientist familiar with the Emanuel study, but who, unlike Knutson, contested the connection between hurricane intensity and global warming. Within a few days, Landsea was granted an interview with *USA Today* (Laborde 2005).

Following Hurricane Katrina, NOAA scientists were again in high demand for media interviews talking about the connection between hurricanes and global warming. On the morning of October 16, 2005, Knutson received a request to appear on the CNBC show "On the Money" (Knutson 2006). Knutson called Laborde for approval, and FOIA documents show that Laborde forwarded the request to Chuck Fuqua, deputy director of communications at the Department of Commerce, who responded: "What is Knutson's position on global warming vs. decadal cycles? Is he consistent with Bell and Landsea?" (Fuqua 2005) Knutson remembers that Laborde soon called back to question him about what he planned to say—especially with regard to any trends in hurricane activity—and that Knutson "supplied a guarded response." Laborde then wrote to Fuqua, "he is consistent, but a bit of a different animal. He isn't on the meteorological side. He's purely a numerical modeler. He takes existing data from observation and projects forward. His take is that even with worse [sic] case projections of green house gas concentrations, there will be a very small increase in hurricane intensity that won't be realized until almost 100 years from now." Two minutes later Fuqua responded, "why can't we have one of the other guys on then?" Knutson soon received a voicemail notifying him that the interview had been rejected.

evidenced by two emails (excerpted below) that were sent by different NOAA PAOs to large numbers of scientists and managers:

From Erica Rule: A study on hurricanes and global warming by Emanuel Kerry (sic) will be released in Nature this Sunday. As this topic might generate media inquiries—consider this e-mail a reminder that ALL media requests are to be directed to NOAA Public Affairs . . . (Rule 2005)

From Jim Teet: I have been informed that any request for an interview with a national media outlet/reporter must now receive prior approval by DOC [Department of Commerce, NOAA's parent agency]. Please ensure everyone on your staff is aware of this requirement . . . (Teet 2005)

These emails show that the media policies are intended to apply to all scientists, although an interview with NOAA PAO Jana Goldman confirmed that certain scientists working on controversial topics received special scrutiny (Goldman 2006). In some cases, PAOs actively denied agency scientists access to the media due to the politically sensitive nature of their work; a particularly egregious example of such interference is the case of Dr. Thomas Knutson (see box at left). In other cases, PAOs attempted to direct media attention away from the work of the agencies' own scientists.

For example, in December 2003, Dr. Kevin Trenberth, head of NCAR's Climate Analysis Section, published an article in the journal *Science* titled "Modern Climate Change." The article, co-authored with Thomas Karl, director of NOAA's National Climatic Data Center, surveyed then-current climate science research and concluded, "modern climate change is dominated by human influences." NOAA had been informed of the pending publication, which included a disclaimer stating, "this article reflects the views of the authors and does not reflect government policy" (Karl and Trenberth 2003).

Nevertheless, media inquiries for Karl were diverted to Dr. Jim Mahoney, a political appointee (now retired) who at the time served as both assistant secretary of commerce for oceans and atmosphere and NOAA deputy administrator (Trenberth 2006). In a December 4, 2003, article in the *San Francisco Chronicle*, Mahoney downplayed the significance of the peer-reviewed study, stating: "My own view is somewhat more open-minded, and from my perspective we don't really understand these things as well as we might" (Perlman 2003).

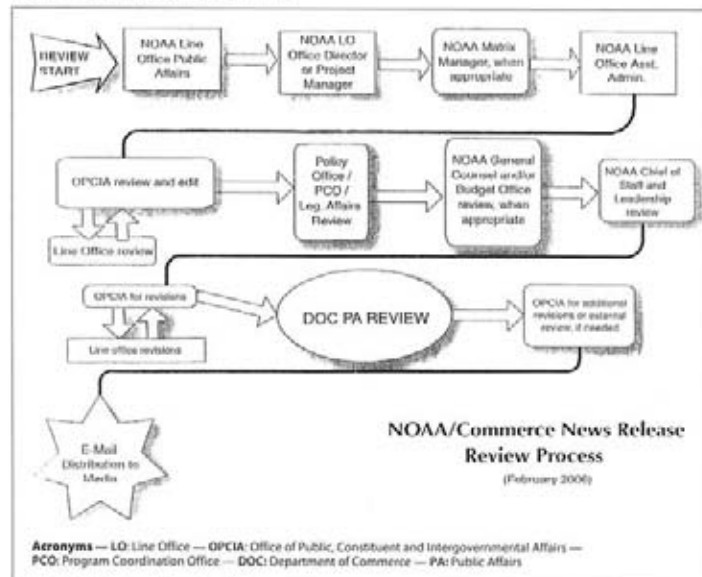
PRESS RELEASES

Agency decisions about which research to highlight with official press releases are also subject to political control. Figure 12 on p. 32 shows a flow chart (obtained through a FOIA request) detailing the extremely complicated process by which a press release is submitted, reviewed, and approved—or not—by several layers of bureaucracy within NOAA and the Department of Commerce. As is clear from the flow chart, a successful press release must pass review by several entities that primarily serve political and public relations functions, and scientists do not have a right of final review to ensure scientific accuracy of the final product.

A NOAA scientist recalls attempting in 2001 to raise media attention for a published paper that determined, from a comparison of climate models and empirical data, the influence of human activities on the warming of Earth's oceans. At first, the scientist said, there was going to be a media advisory and press conference to highlight the findings, but it "kept getting degraded until it was canceled." The scientist contrasted this experience under the Bush administration with work done on a "heat index" in the late 1990s, when then-Vice President Al Gore, on behalf of the Clinton administration, actively helped to publicize the results (Anonymous NOAA scientist 2006a).

Another NOAA scientist, Dr. Richard Wetherald, encountered similar difficulties publicizing

FIGURE 12: NOAA Review Process Flowchart



scientific findings. The following excerpts are from a September 26, 2002, email conversation between NOAA public affairs staffer Jana Goldman and Wetherald, a research meteorologist at NOAA's Geophysical Fluid Dynamics Laboratory (GFDL). The conversation, obtained through a FOIA request, refers to an article Wetherald co-authored on a study of the simulated hydrological changes associated with global warming.

Wetherald: "...I have not bothered to write a draft NOAA press release since the last time it was turned down by the Dept. of Commerce. Apparently at that time, greenhouse or global

warming papers were considered to be the literary equivalent of 'persona non grata' by the current administration. I assume that this is still the case? I don't want to waste both of our times if it is. Anyway, here is the summary for your information. Please let me know if this policy has changed...."

Goldman: "...What I think I may do is pass the abstract along downtown and see what they think. I agree with you, the attitude seems to have changed regarding climate change, but let's also avoid doing unnecessary work if it's not going to go anywhere...."

Wetherald: "... That sounds like a sensible idea. If by some miracle, you can use it as a NOAA press release, this would be fine as long as it contains the basic conclusions in the summary that I sent. I will certainly help out if it comes to that. ..."

Goldman: "... I sent the abstract down to see if it would fly -- if so, we would have to draft a release, but at least we would know that it would go through and our work would not be in vain. ..." (Goldman 2002)

The New Jersey *Star-Ledger* reported that Wetherald has had three proposed press releases rejected—beginning with an early 2001 publication regarding "committed warming and its implications" in the prestigious peer-reviewed journal *Geophysical Research Letters*. He was told that his most recent 2004 press release accompanying the publication of another global warming paper was rejected by "officials" at the Department of Commerce. "Obviously, the papers had a message, and it was not what they wanted it to be," Dr. Wetherald stated in the *Star-Ledger* article. "A decision was made at a high level not to let it out" (MacPherson 2006).

Scientists at agencies other than NOAA also encountered difficulties with press release approval. One example is Dr. Christopher Milly, a USGS research hydrologist who studies the interaction of climate with the global water cycle. While it is Milly's understanding and experience that there is no pre-approval requirement for media contacts at USGS, he reported two incidents of interference with press releases. The first case was in 2002 when a USGS press officer indicated that the subject matter of a press release (the increased risk of extreme flooding due to global warming) was considered sensitive and could cause problems at the White House. The Department of the Interior declined to issue the release, arguing that it would probably be released by *Nature*, the journal that published the research paper on this

subject. In fact, while *Nature* did issue a release, its decision to do so only occurred after the Interior Department refused to do so.

The second case was in November 2005, when a press release on the impact of climate change in water supply modeling went out but only after the PAO had altered the text and removed words such as "global warming," leaving the scientific content intact but possibly lowering its visibility. Milly does not know who made the ultimate decision in either case, but said that others have told him that personnel in USGS public affairs consider climate change and energy to be "hot-button" issues for the administration, and that reference to such sensitive issues, outside of scientific papers, are thus handled and edited with care (Milly 2006).

In mid-September 2004, Dr. Drew Shindell, an ozone specialist and NASA climatologist, submitted a press release to the Goddard Space Flight Center PAO to announce the publication of a paper on climate change in Antarctica. Shindell and the PAO together suggested the title "Cool Antarctica may warm rapidly this century, study finds," which NASA headquarters then asked to be "softened." Headquarters also rejected the next suggestion that Dr. Shindell and the PAO offered—"NASA Scientists expect temperature flip-flop at the Antarctic"—and instead, over Shindell's objections, titled it "Scientists predict Antarctic climate changes." Not surprisingly, Shindell commented, the press release generated relatively little media interest (Shindell 2006a).

Another NASA scientist spoke of a press release written by a PAO that was ready to be posted to the NASA website. However, when the press release, which was about research into the impact of climate-related flooding on agriculture, was sent for a higher level of review, it was rejected without explanation. The scientist, believing the results to be significant, had to ask high-level colleagues to lobby to get the release approved (Anonymous NASA scientist 2006).

MONITORING MEDIA INTERVIEWS

A new development over the past five years is the use of "minders"—a term used by some scientists to describe public affairs officials who listen in on scientists' interviews with the media. With restrictive media policies selectively enforced, some scientists have been more actively "minded" than others. Dr. Pieter Tans was one scientist who was monitored very actively by NOAA press officer Kent Laborde. Tans, chief scientist at NOAA's Global Monitoring Division (previously the Climate Monitoring and Diagnostics Laboratory), was accustomed to making his own appointments for press interviews under the "notification and recap" policy. But by 2004, media policies at NOAA had tightened.

In October 2004, David Shukman, a science correspondent with the BBC, contacted Tans to request a series of broadcast interviews. According to Tans, it took until February 2005 to be granted permission to give the interviews, and approval was conditioned on Laborde's presence (Tans 2006). Laborde flew from NOAA's headquarters in Washington, DC, to Boulder, CO, and Mauna Loa, HI, to be present for the March 22 and 24 interviews. When Shukman again requested an interview with Tans on February 1, 2006, the interview was again approved only under the condition that Laborde be present. When Tans asked Laborde if he was required to report on the interviews, Laborde replied that he did not report the proceedings to anyone. Tans found it unusual that NOAA public affairs would allow such extensive travel, at taxpayer expense, simply to listen in on a media interview and not report on the proceedings. At least three other scientists at NOAA's GFDL have had media requests granted provided that Laborde be present at or listen in on the interview (Stouffer 2006; Knutson 2006; Anonymous NOAA scientist 2006b).

Decreased Media Contact with Scientists

Journalists as well as scientists have said that these approval requirements have made reporting on climate research difficult, often

making reporters miss their deadlines. Ronald Stouffer, senior research meteorologist at NOAA's GFDL, estimates that NOAA's clearance policy—which he nicknames the "pocket veto"—has reduced his domestic media requests (about half of all interview requests he receives) from one every two to three weeks to one every two to three months (Stouffer 2006). Interviews with the European media have remained constant, perhaps because of an increasing demand from European reporters interested in his work on ocean circulation. In interviews, NOAA's Knutson also experienced a decrease in media contact, stating that around one-fifth of his 60 to 70 annual media requests, including requests by major national media outlets, "fall through the cracks" due to the additional delays imposed by the new media policies (Knutson 2006).

Scientific Openness Policies

In February 2006, after Dr. James Hansen's widely publicized allegations of censorship (see p. 12), NASA Administrator Dr. Michael Griffin issued an agency-wide statement clarifying that the role of public affairs officers was not "to alter, filter or adjust engineering or scientific material produced by NASA's technical staff" (Griffin 2006). This statement was followed, on March 30, by an official new policy that purports to uphold the right of open communication between scientists and the media (NASA 2006).

NASA's scientific openness policy is far from perfect. It still requires scientists to obtain "pre-approval" from NASA headquarters for media interviews and denies scientists the right of final review for any communication with "the potential to generate significant media or public interest." The policy also imposes restrictions on the ability of government whistleblowers to disclose non-classified information, a practice that violates two federal laws (the Anti-Gag Statute² and the Whistleblower Protection Act) that provide protections for federal employees disclosing evidence of government wrongdoing (GAP 2006).



Despite these problems, the policy was a move in the right direction and was widely praised by both NASA scientists and lawmakers. Representative Sherwood Boehlert (R-NY), chairman of the House Science Committee, noted in a press statement that the NASA policy "should become a model for the entire federal government" (Boehlert 2006). The *New York Times* also reported that more than 140 NASA scientists, engineers, and civil servants signed a statement "that applauded the agency's administrator, Michael D. Griffin, for following up on his Feb. 4 pledge of 'scientific openness'" (Flekin 2006c). NASA scientist Shindell noted some improvements at the agency, stating, "I've had much better experiences recently and the press corps at GSFC is no longer reluctant to use phrases like 'climate change' or 'global warming' which they were before as they had the feeling that that would 'doom' a release" (Shindell 2006b).

Around the same time that the NASA policy was implemented, NOAA claimed a similar commitment to scientific openness. On February 14, 2006, NOAA Administrator Conrad Lautenbacher wrote a memo to all NOAA employees stating:

"Our media standards also reflect an open policy. We encourage our public affairs staff to keep abreast of media interests. I encourage our scientists to speak freely and openly....We ask only that you specify when you are communicating personal views and when you are characterizing your work as part of your specific contribution to NOAA's mission."

However, the official 2004 NOAA media policy contradicts Lautenbacher's affirmation of "personal views," and no changes to the policy have been made to address scientists' concerns.

² The Anti-Gag Statute is a little-known law, unanimously enacted in 1988 and renewed annually, that establishes the supremacy of congressional free speech laws unless information is specifically identified in advance as classified. The statute was first passed in response to Reagan administration nondisclosure agreements that allowed felony prosecution for releasing any "classifiable" information without advance approval. The administration informed Congress that "classifiable" meant anything that could or should have been classified, or "virtually anything." In other words, without advance permission, whistleblowers could be prosecuted based on an after-the-fact decision that almost any information they released was classified.

The Anti-Gag Statute bars efforts to implement or enforce any nondisclosure policy, form, or agreement that does not include a mandatory, specifically worded addendum (see appendix D). The addendum states that the Whistleblower Protection Act of 1989 (protecting public disclosures) and the Lloyd LaBette Act of 1912 (protecting congressional communications) supersede any restrictive language in any legally enforceable nondisclosure agreements.

Scientific Communication with Congress

The GAP investigation, through interviews with an anonymous agency source and analysis of internal documents provided by agency staff, found that restrictive agency policies affect scientific communication not only with the media but with Congress as well. Agency policies regarding congressional communication—including testimony, questions for the record (QFRs), scientific information sent to policy makers to assist the formulation of legislation, and congressionally mandated reports—closely parallel agency media policies and practices in that they seek to maintain tight control over the message that is communicated. The preparation of these communications is subject to a formal process that is dominated by non-scientific staff and high-level agency officials.

NOAA Document Review

In 2004, shortly after releasing its new media policy, NOAA issued the second edition of its “Procedures Manual for Congressional Communications.” The 18-page policy is highly detailed, covering every aspect of congressional communications. Every type of scientific communication covered in the manual requires clearance by the Department of Commerce (DOC) and, with the exception of congressionally mandated reports, the Office of Management and Budget (OMB). Housed within the Executive Office of the President, the OMB oversees federal agencies with the stated mission of ensuring that “agency reports, rules, testimony, and proposed legislation are consistent with the President’s Budget and with Administration policies” (OMB 2006). NOAA’s Office of Legislative Affairs (OLA) is responsible for coordinating congressional communications, including input, review, and clearance by relevant parties.

For example, in the case of congressional testimony, the policy states:

OLA will coordinate NOAA headquarters review and clearance of the testimony and obtain clearance from DOC and the Office of Management and Budget. . . . OLA will

address all clearance comments received from DOC and OMB. Edits and comments not related to policy issues will be handled directly by OLA. When, in the opinion of OLA, clearance comments involve a policy issue, OLA will make every effort to obtain the views of the NOAA witness or a policy official designated to act on behalf of the witness (NOAA 2004).

While such a general clearance policy is standard, the language of the policy does not seem to give any guidelines or limitations regarding the kinds of edits and comments considered appropriate. When a document or testimony is providing scientific information, there is no guarantee of a final technical review by scientists to ensure accuracy has been maintained throughout the process. In practice, this policy affords the DOC, OMB, and NOAA management a great deal of latitude in the political review and alteration of scientific content.

According to an inside source at NOAA, communications with Congress, including those drafted in consultation with scientific experts, are handed up from OLA to what is commonly known as the “policy shop,” housed within the Office of the Undersecretary, and to the NOAA assistant secretary’s office. Documents—particularly those that contain sensitive subject matter—are edited in the “policy shop” to downplay certain conclusions and exaggerate uncertainty. Our source noted that this process lacks transparency: “It is very hard to trace who is initiating certain types of changes. Once an answer (the ‘Administration’s position’) is developed to a particular question, everyone knows that the answer has to be used again whenever the topic is addressed again in the future,” and that scientific content is frequently changed to conform to the favored policy position. “Realizing that it is pointless,” the source said, “OLA has stopped asking certain scientists what to write in certain circumstances as it is certain to get completely rewritten anyway” (Anonymous NOAA official 2006b).



Altering Scientific Information

The OMB and interagency reviewers have sometimes altered scientific information in documents going to Congress. A set of internal documents provided to GAO by agency staff shows this political editing in action. The documents are draft responses to QFRs submitted by Senators Daniel Inouye (D-HI) and Frank Lautenberg (D-NJ) following an April 26, 2006, Senate Commerce, Science, and Transportation Committee hearing on projected and past effects of climate change. The draft responses include comments and edits from scientists, the OMB, EPA, DOE, and the White House Office of Science and Technology Policy compiled by the NOAA legislative affairs specialist in charge of coordinating clearance and review of congressional communications. A copy of the compiled edits to selected QFR responses from Senator Inouye is included in Appendix E.

In one response, the OMB recommended keeping the first sentence of the paragraph: "The full range and magnitude of the biological and biogeochemical effects of ocean acidification are still so uncertain that a reliable and quantitative estimate of the likely socio-economic effects is not yet possible," but removing the next sentence: "However, healthy coral reef ecosystems are important to both the fisheries and tourism industries and negative impacts on

these ecosystems could affect these industries." The OMB's explanation for this suggested deletion was, "As written this seems to conflict with the factual first sentence of the paragraph, which adequately answers the question."

Fortunately, agency scientists were able to reverse inaccurate alterations introduced by non-scientific reviewers in another part of the document. In this instance, the OMB suggested adding text that attributed global warming to increasing water vapor, drawing from a quote taken out of context from a scientific paper by Drs. Thomas Karl and Kevin Trenberth (Butler 2006). Comments by Dr. James Butler in a subsequent draft attempted to clarify that this is not what was meant, but the OMB seemed to insist on keeping the language. Finally, the OMB appeared to accept a change to the language made by Karl himself.

These two examples show that, while federal climate scientists are occasionally able to correct distortions to scientific findings in congressional communication, political appointees can still introduce inaccurate information that goes unchecked. It is therefore essential that scientists have a right of final review to correct inaccuracies and protect the scientific integrity of these communications.

CHAPTER 7

Discussion

The UCS and GAP investigations into political interference with government climate scientists were conducted independently yet arrived at very similar conclusions regarding the state of federal climate science research. This chapter describes the key themes that surfaced from our investigations.

“The intrusion of politics into the field is making some (me and others) consider change of field or career.”

— A SCIENTIST AT NOAA

Political Interference Is Common

The federal government needs accurate scientific information to craft effective policies. Political interference with the work of federal scientists threatens the quality and integrity of these policies. As such, no scientists should ever encounter any of the various types of political interference described in our survey questions. Yet, as the UCS survey shows, 150 survey respondents—an unacceptably large number—personally experienced instances of interference over the past five years. Such large numbers indicate that the widely publicized incidents described in Chapter 3 are not merely isolated problems or the acts of a few overzealous political appointees. Indeed, interference in the work of federal climate scientists has become all too common.

Survey respondents reported political interference of various shapes and degrees, some as explicit as direct edits and pressure to change words in scientific documents, and others more subtle, such as excessive levels of review and

prolonged delays in releasing official reports and websites. Scientists at all seven of the surveyed federal agencies reported personally experiencing these types of political interference. The fact that no single agency and no single mode of interference stood out from the others strongly indicates that this pattern of interference is not the consequence of poor leadership at a specific agency or a specific policy only affecting federal scientists in a limited manner.

The interference revealed in the UCS survey and through the GAP interviews support the claim made by many scientists in their essay responses that interference is used to advance pre-ordained policy positions and to avoid highlighting results that may prove politically inconvenient. Our findings indicate that political interference works to control the message being communicated by federal climate scientists.

Interference in the work of some federal scientists can have a chilling effect on others working in the same laboratory or agency. Even one highly publicized incident of interference can serve to raise concern among other scientists that their research is likely to draw similar scrutiny. The large numbers of respondents who report perceiving in others various instances of political interference show that this is an acknowledged problem among climate scientists.

Scientists at NCAR are not federal employees, although the quality and scope of their climate research is similar to that undertaken at federal agencies. Since NCAR employees are insulated from federal policies and oversight by political appointees, they served as a control group for the UCS investigation. NCAR scientists stood

out from the rest of the survey respondents in that they reported personally experiencing much lower rates of political interference than their federal colleagues.

Open communication between scientists is one of the pillars of the scientific method itself. But for society to fully reap the benefits of scientific advances, information must also flow freely among scientists, policy makers, and the general public. Our investigation has found this flow to be impeded by inappropriate political interference, the consequences of which are that government policy makers base their decisions on incomplete—or in some cases, inaccurate—scientific information, and a broader public understanding of the reality and urgency of climate change is stunted.

Restrictive Policies Silence Inconvenient Science

Federal scientists have a constitutional right to speak about their scientific results, and the American public has a right to be informed of the findings of taxpayer-supported research. Restrictions on scientists who report findings contrary to an administration's preferred policies not only undermine these basic rights, but also contribute to a general misunderstanding of climate science and impair our government's ability to craft effective policies on global warming.

The news media is a powerful means of communicating the latest advances in scientific understanding to the public, and can be a highly effective tool for popular science education. It is this tremendous potential for influencing public opinion that has caused government agencies to attempt to tightly control what message is presented to the media. The GAP investigation uncovered media policies and practices at several federal agencies that not only select which agency research gets highlighted by official press releases, but also which agency scientists can speak with reporters and about which topics. This level of control

is a marked change from the previous standard of "notification and recap" that seemed to characterize the relationship between public affairs officials and scientists in years past.

The investigation found that these policies and practices have resulted in significant interference in the work of federal climate scientists. There are numerous examples in which agency PAOs sought to control, obstruct, or weaken scientific messages that undermined the administration's policy positions. In effect, PAOs at federal agencies have assumed the role of gatekeepers for scientific information, either under their own authority or more likely at the direction of their superiors.

These restrictive policies are systemic, but in practice selectively applied. In interviews, scientists noted that the policies were most stringently applied to federal climate scientists whose research results contradicted the administration's position. This distinction is evident in the UCS survey results, which showed that scientists working on issues that may be considered sensitive or controversial reported larger numbers of experienced incidents of interference and were also more likely to experience all of the various forms of interference detailed in the survey.



The investigation did uncover some signs of improvement. Perhaps as a consequence of NASA's new scientific openness policy, released in early 2006, a majority of NASA respondents reported that the new policy had improved the environment for climate research; several scientists credited the policy (and NASA Administrator Michael Griffin) in their essay responses. However, NASA stands alone among the agencies surveyed to receive commendations from its scientists for improved policies. Despite NOAA Administrator Lautenbacher's statement asserting that NOAA also respected scientific openness, the official policy fell short of this claim,

"Applied climate science is essential to manage climate impacts with increased climate variability."

— A SCIENTIST AT THE USDA

and only a small percentage of NOAA survey respondents agreed that recent policies had improved the environment at their agency. While the NASA openness policy is not perfect, it stands as a model for the type of action other agencies should take by providing clearer guidelines for both scientists and public affairs staff, and highlights the need for strong leadership affirming the right of government scientists to communicate their research findings.

Funding for Federal Climate Science is Inadequate

Federal funding for climate science research has been declining since the mid-1990s when adjusted for inflation (see chart on p. 10). Scientists find the level of funding to be inadequate to support the research needed to understand global climate change. A majority of survey respondents disagreed that the federal government has done a good job funding climate research, and dozens of scientists called for increased funding in their essay responses (see box on p. 22). Scientists highlighted two areas

in particular where inadequate funding is degrading scientific capacity: satellite-based Earth observation systems and research into the effects of global warming.

Satellite-based observations of our planet's land, ocean, and atmosphere, taken continuously over many decades, are of crucial importance in understanding the ongoing processes driving global climate change, and in refining the computer models used to predict responses to these processes. However, recent cuts to the NASA climate science budget have led to the cancellation or extended delay of several Earth observation satellites, raising the possibility of a critical gap in observational coverage before the next generation of satellites is launched. The budget cuts and the rewording of NASA's mission statement were both noted with concern by survey respondents, many of whom expressed fears that climate science was being replaced by President Bush's new space exploration initiative as a top priority for NASA. Several scientists warned in their essay responses that a gap in satellite data could seriously hinder forward progress in understanding climate change.

Global climate change will have a profound impact on human societies, with serious negative consequences to public health, water supply, agriculture, the distribution of plant and animal life, and the valuable services provided by natural systems. Research into these issues is crucial to our long-term preparedness as a society for likely future climate changes. While there are a few agencies that devote resources to this line of research, several survey respondents called for increased funding and focus on research to understand and mitigate these effects.

Morale at Federal Agencies is Poor

Large numbers of federal survey respondents reported low morale, declining job satisfaction, and a worsening environment for federal climate science. The UCS survey results also

suggest a correlation between the deterioration in morale and the politicized environment surrounding federal climate science in the Bush administration. One primary danger of low morale is that federal agencies may have more difficulty attracting and keeping the best scientists.

Approximately two-thirds of all respondents said the environment for federal climate research is worse now than it was 5 or 10 years ago. Survey respondents who spend most of their time on climate research, or who work on climate science topics that are considered sensitive or controversial, are more likely to experience politicization and interference. Those same groups of scientists are also more likely to report low morale and hold a negative view of the current climate science environment. Scientists who are more insulated from political pressures, such as those whose jobs include only a small percent of climate-related work or those who never work on controversial issues, have noticeably higher morale.

These results and the essay responses are evidence that the generally negative outlook on the state of federal climate science is the cumulative effect of recent episodes of political interference, the advent of restrictive communications policies, and declining funding levels for climate science.

A comparison with scientists at NCAR also supports this connection. The pattern of low morale and declining job satisfaction among federal government climate scientists contrasts sharply with the much more positive perspectives given by NCAR respondents. When assessing the state of federal climate science over the past few years, NCAR respondents were nearly as pessimistic as federal respondents, with 65 percent saying they thought today's environment for federal climate science is worse compared with 10 years ago. But many respondents were quick to emphasize in essay responses that those problems did not apply to NCAR.

Scientists responding to the survey almost unanimously found federal climate science to be of generally excellent quality, but the numerous documented instances of political interference have called into question our government's respect for the scientific findings of its scientists. In a way, this is heartening. The data point to the conclusion that if the politicization, interference, and under-funding imposed on these scientists were lifted, federal climate scientists would stand ready and able to carry out their jobs. It is crucial to remove these obstacles to federal climate research so that policy makers, the media, and the public can again access the best scientific information federal agency climate scientists have to offer. Without this information, the country will not be able to respond to the threats posed by a rapidly warming climate.

"Scientists at NOAA and NASA are routinely discouraged from discussing climate change results with the media. It's exactly the opposite at NCAR. We are encouraged to get our results out there to the public by whatever means available."

— A SCIENTIST AT NCAR

CHAPTER 8

Recommendations and Conclusions

The UCS and GAP investigations have brought to light numerous ways in which U.S. federal climate science has been filtered, suppressed, and manipulated in the last six years. According to our research, political interference has extended beyond just a few leading scientists to affect hundreds of federal climate researchers. While much of the interference involves restrictions on the communication of research, it also affects what research will be funded, and the morale of scientists themselves.

Overtaking these patterns of abuse and restoring scientific integrity to the federal climate science enterprise will require concerted action and the creation of new systems of governance at federal science agencies. In this section we provide some recommendations for undertaking this transformation, in particular focusing on reforms that guarantee certain fundamental rights for government scientists.

Basic Scientific Freedoms

Scientists have certain basic rights regarding the use of their expertise and dissemination of their research findings. In order to restore scientific integrity to federal climate science, scientists need to be made aware of these basic scientific freedoms and government agencies must respect them.

Scientists have a constitutional right to speak about any subject, including policy-related matters and those outside their area of expertise, so long as they make it clear that they do so in their private capacity and such personal communications do not take from agency time and resources. Ultimate decisions about the communication of scientific information, including publications, congressional testimony

and reports, web postings, and presentation material, should lie with scientists themselves. Scientists must also have a “right of last review” on press releases and other agency communications related to their scientific research, to ensure scientific accuracy has been maintained.

Actions to Restore Scientific Integrity

Creating systems to ensure long-term independent and accessible science will not only require the energies of the Executive branch and Congress, but also of scientists and other federal agency staff.

Scientist Actions

- Scientists, scientific societies, and unions who represent federal scientists must work to make these basic scientific rights more widely known.
- Scientific societies should continue their efforts to include issues of scientific integrity in their public policy agendas. Possible avenues for these efforts include creating space at meetings or in publications for discussion of these issues, passing internal resolutions supporting independent science, monitoring federal agencies that do scientific research within their fields, and lobbying the government to press for reforms.
- Scientists themselves have responsibilities regarding the communication of their research. They should work with PAOs to make significant research developments accessible and comprehensible to the public, as well as follow a policy of “notification and recap,” in which they inform PAOs in advance of a pending interview and recap the interaction for them afterward.

- Scientists must also be responsible for the accuracy and integrity of their communications and should not represent the agency on issues of politics or policy without prior approval from the public affairs office.

Federal Agency Actions

- Agencies should publicly affirm that the basic scientific freedoms stated above apply to their scientists and adopt policies to ensure these freedoms are upheld.
- Agencies should clearly support the free exchange of scientific information in all venues. They should not shy away from presenting conflicting scientific results by their scientists. While policies must represent choices of one path over another, policy makers must have access to the full range of scientific findings on an issue in order to make an informed decision.
- PAOs should play an active supporting role in coordinating and facilitating media interactions, connecting journalists with scientists by specialty or specific request, supplying context and background information as needed, and ensuring the timeliness of these interactions.
- Pre-approval and monitoring of media interviews with scientists should be eliminated. Scientists should not be subject to restrictions on media contacts beyond a "notification and recap" policy.
- Agencies should promptly and thoroughly investigate incidents of political interference when they occur. They should determine how and why problems have occurred, and prevent further incidents by implementing adequate disciplinary measures for those found responsible. Institutional conditions, policies, and activities that prompt problems should be reformed.

- Clear written policies governing the review and release of federal scientists' research results should be publicly available and include deadlines that will not create prolonged or unreasonable delays in releasing scientific content.

"Whether climate changes are harsh over the next 3–20 years or hundreds of years, we should be addressing the issues that impact basic societal needs. Hurricane Katrina is an excellent illustration of how costly the current policy of 'benign neglect' can be."

— A SCIENTIST WITH THE DOD

Appendix D contains a model media policy intended for use by federal agencies, which outlines the rights and responsibilities of scientists and agency staff, and provides guidelines for media and public interactions. Agency leadership must publicize and promote these policies and their broad application on a regular basis.

- Agencies must comply with the Anti-Gag Statute, a federal law that requires employers to include written notification of employees' whistleblower-related rights in any communication policy or directive. The Statute guarantees that free speech rights protected under the Whistleblower Protection Act and related laws cannot be canceled by any agency policy, form, or agreement (except those relating to classified information).

Congressional Actions

- Congress should take the necessary steps, including conducting oversight hearings and investigations or introducing legislation, to ensure the basic scientific freedoms of federal climate scientists are respected. One critical step would be for Congress to act promptly to amend the Whistleblower Protection Act to specifically protect the rights of federal scientists to conduct their work and communicate their findings without interference and ensure that those who violate those rights are disciplined.

"[The integrity of US federal government climate science could best be improved by]

Remembering that the civil service scientists and engineers can and should be an unbiased reservoir of insights into different questions with impacts across international economic and cultural dividing lines. Politicizing and degrading the integrity for which we are internationally known and respected is a disservice to our country and a danger to the world. If we can't be trusted to give insights on global change and funded to do so, who in the world will do it?"

— A SCIENTIST AT NASA

- Congress should immediately exert pressure on the Executive branch to undertake periodic scientific assessments of climate change that address the consequences for the United States, consistent with the Global Change Research Act. In addition to being legally required, these assessments are important for the free flow of scientific information to the policy arena and many other audiences.
- Funding decisions regarding climate change programs should be guided by scientific criteria and must take into account the importance of programs that gather data about our climate, such as NASA's climate observation satellites. These long-term, continual observation systems are vital to climate science and other important research.

Leadership Reforms

- The Climate Change Science Program could play an important role in implementing the federal agency reforms listed above. The president should appoint a permanent director of the Climate Change Science Program to better provide the many agencies undertaking climate research with direction and oversight as well as support the free flow of scientific information out of these agencies.

The reality of global warming, including the role of heat-trapping gases from human activities in driving climate change, has been repeatedly affirmed by scientific experts. Every day that the government chooses to ignore climate science is a day it fails to protect future generations from the consequences of global warming. Until this political interference ends, the United States will not be able to fully protect Americans and the world from the dangers of a warming planet. Our government must commit to ensuring basic scientific freedoms and support scientists in their endeavors to bring scientific results to the policy arena, scientific fora, and a wide array of other audiences. Addressing climate change is a matter of national preparedness.

References

- Anonymous National Aeronautics and Space Administration (NASA) scientist. 2006. Interview with Jennifer Freeman, June 27. Name withheld upon request.
- Anonymous National Oceanic and Atmospheric Administration (NOAA) scientist. 2006a. Interview with Tarek Maassarani, April 13. Name withheld upon request.
- Anonymous National Oceanic and Atmospheric Administration (NOAA) scientist. 2006b. Interview with Tarek Maassarani, April 13. Name withheld upon request.
- Anonymous National Oceanic and Atmospheric Administration (NOAA) official. 2006a. Interview with Tarek Maassarani, May 6. Name withheld upon request.
- Anonymous National Oceanic and Atmospheric Administration (NOAA) official. 2006b. Interview with Tarek Maassarani, May 6. Name withheld upon request.
- Anonymous U.S. Department of Agriculture (USDA) official. 2004. Personal communication with Seth Shulman. Name withheld upon request. In *Scientific Integrity in Policymaking*. Cambridge, MA: Union of Concerned Scientists.
- Barton, J. 2005. Letter to Dr. Michael Mann, assistant professor, Department of Environmental Sciences, University of Virginia, June 23. Representative Joseph Barton was chairman of the House Committee on Energy and Commerce. Washington, DC. Online at http://energycommerce.house.gov/108/letters/062305_Mann.pdf.
- Boehlert, S. 2006. Boehlert Statement on New NASA Public Affairs Policy. Representative Sherwood Boehlert was chairman of the House Committee on Science. Washington, DC. Online at <http://www.house.gov/science/press/109/109-218.htm>.
- Boehlert, S. 2005. Letter to Representative Joseph Barton. July 14. Representative Sherwood Boehlert was chairman of the House Committee on Science. Washington, DC. Online at http://gop.science.house.gov/hot/climate%20dispute/Boehlert_letter_to_Barton.pdf.
- Butler, J. 2006. Phone interview with Tarek Maassarani, June 1. James Butler is a research scientist at the National Oceanic and Atmospheric Administration's Earth System Research Laboratory.
- Fuqua, C. 2005. Media request for tonight with Knutson. Email to Kent Laborde, public affairs official at the National Oceanic and Atmospheric Administration, October 19. Chuck Fuqua is deputy director of communications at the Department of Commerce. Obtained via FOIA request on August 9, 2006.
- Giles, J. 2006. Is US hurricane report being quashed? *Nature*, September 26.
- Goldman, J. 2006. Interview with Tarek Maassarani in Silver Spring, MD, October 7. Jana Goldman is a public affairs official at the National Oceanic and Atmospheric Administration.
- Goldman, J. 2002. AGU Journal Highlight. Email to Richard Wetherald, research meteorologist at the National Oceanic and Atmospheric Administration's Geophysical Fluid Dynamics Laboratory, September 26. Jana Goldman is a public affairs official at the National Oceanic and Atmospheric Administration. Received via FOIA request on August 9, 2006.
- Government Accountability Project (GAP). 2006. NASA's new media policy falls short of administrator's promise of "culture of openness." Press release, April 3. Washington, DC. Online at http://www.whistleblower.org/content/press_detail.cfm?press_id=424.
- Griffin, M. 2006. Statement on Scientific Openness. Washington, DC: National Aeronautics and Space Administration. Online at http://www.nasa.gov/about/highlights/ghnfin_science.html.
- Hansen, J. 2006. Interview with Andrew Revkin, January 29. Macromedia Flash format, 3 min., 27 sec. From *New York Times*, January 29. Online at http://nytimes.feedroom.com/?fr_story=cd3d476b15fec65dc1f1e82cb6194d532c96858, accessed on December 10, 2006.
- Hohenstein, W. 2004. Personal communication with Seth Shulman. William Hohenstein was director of the U.S. Department of Agriculture's Global Change Program Exchange. Office of the Chief Economist. In *Scientific Integrity in Policymaking*. Cambridge, MA: Union of Concerned Scientists.
- Karl, T.R., and K.E. Trenberth. 2003. Modern global climate change. *Science* 302:1719–1723. Online at <http://www.cgd.ucar.edu/cas/trenberth/papers/karlrenberthSci.pdf>.

- Knutson, T. 2006. Interview with Tarek Maassarani in Princeton, NJ, April 13. Thomas Knutson is a research scientist at the National Oceanic and Atmospheric Administration's Geophysical Fluid Dynamics Laboratory.
- Laborde, K. 2005. USA Today interview. Email to Chris Landsea, research scientist at the National Oceanic and Atmospheric Administration's Atlantic Oceanographic & Meteorological Laboratory, July 28. Kent Laborde is a public affairs officer at the National Oceanic and Atmospheric Administration. Obtained via FOIA request on August 9, 2006.
- MacPherson, K. 2006. Tempest brews in weather think tank. *Star-Ledger* (Newark, NJ), October 1.
- Mahlman, J. 2006. Interview with Tarek Maassarani in Boulder, CO, April 6. Jerry Mahlman was the director (retired) of the National Oceanic and Atmospheric Administration's Geophysical Fluid Dynamics Laboratory.
- Mikulski, B. 2006. Letter to David Walker, comptroller general at the U.S. Government Accountability Office, February 17. Barbara Mikulski was the ranking member of the U.S. Senate Appropriations Subcommittee on Commerce, Justice, Science and Related Agencies. Washington, DC. Online at <http://mikulski.senate.gov/record.cfm?id=251712>.
- Milly, C. 2006. Interview with Tarek Maassarani, May 5. Christopher Milly is a research scientist with the U.S. Geological Survey.
- National Aeronautics and Space Administration (NASA). 2006. Policy on the release of information to the news and information media. Washington, DC. Online at http://www.nasa.gov/audience/formedia/features/communication_policy.html.
- NOAA Magazine. 2005. NOAA attributes recent increase in hurricane activity to naturally occurring multi-decadal climate variability. Washington, DC: U.S. Department of Commerce. Online at <http://www.magazine.noaa.gov/stories/mag184.htm>.
- National Oceanic and Atmospheric Administration (NOAA). 2004. Procedures manual for congressional communications. Washington, DC: U.S. Department of Commerce.
- National Research Council (NRC). 2006. Space studies board annual report 2005. Washington, DC: National Academy of Sciences.
- Perlman, D. 2003. Climate change laid to humans: Report warns there's "no doubt" industry is primary cause. *San Francisco Chronicle*, December 4.
- Piltz, R. 2005. On issues of concern about the governance and direction of the climate change science program. Memo to U.S. Climate Change Science Program agency principals, June 1. Online at <http://www.climate-sciencewatch.org/index.php/csw/details/memo-to-ccsp-principals>.
- Revkin, A. 2006a. Climate expert says NASA tried to silence him. *New York Times*, January 29.
- Revkin, A. 2006b. NASA's goals delete mention of home planet. *New York Times*, July 22.
- Revkin, A. 2006c. Scientists commend NASA's progress on communications. *New York Times*, March 14.
- Revkin, A. 2005a. Bush aide edited climate reports. *New York Times*, June 8.
- Revkin, A. 2005b. Former Bush aide who edited reports is hired by Exxon. *New York Times*, June 15.
- Revkin, A. 2003. Politics reasserts itself in the debate over climate change and its hazards. *New York Times*, August 5.
- Revkin, A. 2002. U.S. sees problems in climate change. *New York Times*, June 3.
- Revkin, A., and K.Q. Seelye. 2003. Report by the E.P.A. leaves out data on climate change. *New York Times*, June 19.
- Rue, E. 2005. Possible media attention. Email to NOAA staff, July 27. Obtained via FOIA request on July 31, 2006.
- Seelye, K.Q. 2002. President distances himself from global warming report. *New York Times*, June 5.
- Shindell, D. 2006a. Email interview with Tarek Maassarani, May 31. Drew Shindell is a research scientist at the National Aeronautics and Space Administration's Goddard Institute for Space Studies.
- Shindell, D. 2006b. Email interview with Tarek Maassarani, May 17. Drew Shindell is a research scientist at the National Aeronautics and Space Administration's Goddard Institute for Space Studies.

- Stouffer, R. 2006. Interview with Tarek Maassarani in Princeton, NJ, April 13. Ronald Stouffer is a research scientist at the National Oceanic and Atmospheric Administration's Geophysical Fluid Dynamics Laboratory.
- Tans, P. 2006. Phone interview with Tarek Maassarani, March 9. Pieter Tans is a research scientist at the National Oceanic and Atmospheric Administration's Earth System Research Laboratory.
- Teet, J. 2005. DOC Interview Policy. Email to NOAA staff, September 29. Originally published by L. Alexandrova, 2005. Commerce Department tells National Weather Service media contacts must be pre-approved. *The Raw Story*, October 4. Online at http://rawstory.com/news/2005/Commerce_Department_tells_Nationa_1004.html, accessed December 22, 2006.
- Trenberth, K. 2006. Interview with Tarek Maassarani in Boulder, CO, April 6. Kevin Trenberth is head of the Climate Analysis Section at the National Center for Atmospheric Research.
- U.S. Climate Change Science Program (CCSP). 2003. The climate change research initiative. Washington, DC. Online at <http://www.climatechange.gov/about/ccri.htm>, accessed on October 25, 2006.
- U.S. Climate Change Science Program (CCSP). 2006. Overview of the U.S. Climate Change Science Program, CCSP-1. Washington, DC. Online at <http://climatescience.gov/info sheets/factsheet1/default.htm>.
- U.S. Environmental Protection Agency (EPA). 2002. Air Trends. Washington, DC. Online at <http://www.epa.gov/airtrends>.
- U.S. Global Change Research Information Office (GCRI/O). 2004. U.S. Global Change Research Act of 1990, Public Law 101-606 (11/16/90) 104 Stat. 3096-3104. Online at <http://www.gcric.org/gcact1990.html>, accessed October 25, 2006.
- U.S. Global Change Research Program (USGCRP). 2006a. USGCRP-Participating US Agencies, Department of Commerce: National Oceanic and Atmospheric Administration. Washington, DC. Online at <http://www.usgcrp.gov/usgcrp/agencies/noaa.htm>, accessed October 25, 2006.
- U.S. Global Change Research Program (USGCRP). 2006b. USGCRP-Participating US Agencies, National Aeronautics & Space Administration (NASA). Washington, DC. Online at <http://www.usgcrp.gov/usgcrp/agencies/nasa.htm>, accessed October 25, 2006.
- U.S. Global Change Research Program (USGCRP). 2006c. USGCRP-Participating US Agencies, Department of Energy. Washington, DC. Online at <http://www.usgcrp.gov/usgcrp/agencies/doe.htm>, accessed October 25, 2006.
- U.S. Global Change Research Program (USGCRP). 2006d. USGCRP-Participating US Agencies, Department of Agriculture. Washington, DC. Online at <http://www.usgcrp.gov/usgcrp/agencies/usda.htm>, accessed October 25, 2006.
- U.S. Global Change Research Program (USGCRP). 2006e. USGCRP-Participating US Agencies, Department of the Interior: US Geological Survey. Washington, DC. Online at <http://www.usgcrp.gov/usgcrp/agencies/interior.htm>, accessed October 25, 2006.
- U.S. Global Change Research Program (USGCRP). 2006f. USGCRP-Participating US Agencies, Environmental Protection Agency. Washington, DC. Online at <http://www.usgcrp.gov/usgcrp/agencies/epa.htm>, accessed October 25, 2006.
- U.S. Global Change Research Program (USGCRP). 2006g. USGCRP-Participating US Agencies, Department of Defense. Washington, DC. Online at <http://www.usgcrp.gov/usgcrp/agencies/defense.htm>, accessed October 25, 2006.
- U.S. Office of Management and Budget (OMB). No date. OMB's mission. Washington, DC. Online at <http://www.whitehouse.gov/omb/organization/role.html>, accessed November 15, 2006.

APPENDIX A

UCS Climate Scientist Survey Text and Responses (FEDERAL)

Following is the text of the survey UCS mailed to 1,630 federal climate scientists at seven federal agencies and departments, along with response data for the 279 scientists who completed and returned surveys. Two numbers are listed for each response option in the survey—the number of scientists who selected that response (listed in parentheses) and the percentage of scientists answering the question who marked that response option. The results in this appendix only reflect the responses of federal scientists and do not include responses from NCAR scientists; see Appendix B for survey text and response data for NCAR. A detailed analysis of select survey questions can be found in Appendix C.

For some questions the aggregate number of responses to a given question is less than 279 because not all scientists answered the question, and for other questions the aggregate number is greater because scientists were allowed to choose more than one response to the given question. It is important to note that the percentages listed in this appendix (and in the report text) are calculated in reference to *the number of scientists answering the question*, rather than the total number of returned surveys or the aggregate number of responses to each question. Percentages listed for a given question may not total 100 percent due to

rounding or multiple responses to a question by a scientist.

For example, questions 19 through 31 provide survey respondents with the option of reporting specified types of interference as “perceived in others” and/or “personally experienced.” Respondents could also report “neither.” In this appendix, the three response options are tabulated separately, although respondents were free to mark more than one answer for a given type of interference. The report text often cites the percentage of respondents who “perceived or personally experienced” a particular form of interference. To avoid double counting those respondents who answered both “perceived” and “experienced,” this statistic is not obtained by summing the number of responses for those categories. Instead, it is calculated by subtracting the percentage of survey respondents reporting “neither” from 100 percent.

Questions 4, 15, and 17 include “not applicable” as a possible response and the numbers of those responses are tabulated in this appendix. However, when analyzing survey results from these questions in the report text, the “not applicable” responses are not included in the sample. This analysis results in slightly different percentages in this appendix from those quoted in the text.

2006 UCS Scientific Integrity Program
SURVEY OF FEDERAL CLIMATE SCIENTISTS

The Union of Concerned Scientists (UCS) is the leading science-based nonprofit working for a healthy environment and a safer world. UCS combines independent scientific research and citizen action to develop innovative, practical solutions and to secure responsible changes in government policy, corporate practices, and consumer choices. This survey is produced by the UCS Scientific Integrity Program.

Please fill out this survey on your personal time and mail it in the enclosed postage-paid envelope as soon as possible, but before July 30, 2006. All responses will be kept anonymous and confidential. Please feel free to write comments, but restrict your writing to the additional comments area on page 4, or a separate sheet of paper. Please do not write in the margins or edit the wording of questions—we cannot tabulate responses to questions that are edited. For more information on UCS, the Scientific Integrity Program, and our previous surveys of scientists at federal agencies, please see www.ucsusa.org/scientific_integrity.

RESEARCH AND TRAINING (circle one)

1. My major field of training is:

climatology 11% (31)	meteorology 24% (67)	engineering 7% (19)	geology 7% (19)
physics 14% (40)	chemistry 6% (18)	biology 14% (39)	other 44% (123)

optional: list field of specialization _____

2. My climate science-related work primarily involves:

basic science 19% (53)	observations/measurement 50% (139)	modeling 25% (70)
impacts 13% (35)	management/policy 6% (17)	other: _____ 9% (24)

3. The percentage of my work having to do with climate-related topics is approximately:

0-25% 13% (35)	26-50% 14% (40)	51-75% 23% (64)	76-100% 50% (137)
-------------------	--------------------	--------------------	----------------------

4. I generally seek to publish my research findings in peer-reviewed literature.

yes 88% (246)	no 4% (10)	not applicable 8% (22)
------------------	---------------	---------------------------

FEDERAL CLIMATE SCIENCE (circle one)

5. U.S. federal government climate research is of generally excellent quality.

strongly agree 35% (98)	agree 53% (147)	no opinion 7% (19)	disagree 4% (12)	strongly disagree 1% (3)
----------------------------	--------------------	-----------------------	---------------------	-----------------------------

6. The U.S. government has done a good job funding climate research.

strongly agree	agree	no opinion	disagree	strongly disagree
6% (18)	31% (86)	9% (26)	42% (117)	11% (31)

7. U.S. federal climate research is independent and impartial.

strongly agree	agree	no opinion	disagree	strongly disagree
17% (46)	54% (149)	9% (25)	18% (49)	3% (9)

8. Today's environment for federal government climate science is (better, worse, same) compared with:

	better	worse	same	no opinion
• 1 year ago?	14% (38)	42% (116)	40% (108)	4% (11)
• 5 years ago?	13% (35)	67% (182)	15% (41)	5% (14)
• 10 years ago?	18% (48)	64% (176)	8% (23)	10% (27)

9. My climate science-related work touches on issues that could be considered sensitive or controversial.

always	frequently	occasionally	seldom	never
6% (16)	24% (67)	47% (129)	18% (49)	5% (15)

AGENCY CLIMATE SCIENCE (circle one)**10. Climate science at my agency is moving in the right direction.**

strongly agree	agree	no opinion	disagree	strongly disagree
4% (10)	44% (122)	9% (25)	34% (95)	9% (26)

11. My agency's leadership aspires to and expects a high level of integrity and professionalism.

strongly agree	agree	no opinion	disagree	strongly disagree
30% (83)	53% (148)	9% (24)	6% (18)	2% (6)

12. My agency's management stands behind scientific staff or managers who put forth scientifically defensible positions that may be politically controversial.

strongly agree	agree	no opinion	disagree	strongly disagree
9% (24)	40% (109)	23% (63)	25% (68)	4% (12)

13. My agency offers opportunity for advancement based on scientific expertise, not just on administrative and supervisory expertise.

strongly agree	agree	no opinion	disagree	strongly disagree
18% (49)	48% (135)	16% (44)	15% (41)	4% (10)

14. My agency has a clear policy on scientific communication with the public and the media.

strongly agree	agree	no opinion	disagree	strongly disagree	don't know
11% (31)	51% (142)	12% (33)	16% (44)	5% (13)	5% (14)

15. Recent changes to policies pertaining to scientific openness at my agency have improved the environment for climate research.

strongly agree	agree	no opinion	disagree	strongly disagree	not applicable
3% (8)	18% (50)	34% (93)	25% (69)	12% (33)	9% (24)

16. Documents, reports, and recommendations from my agency rely upon the best available science.

always	frequently	occasionally	seldom	never
24% (65)	54% (147)	21% (57)	1% (2)	0% (0)

17. My agency helps me effectively communicate relevant research findings to the public.

always	frequently	occasionally	seldom	never	not applicable
9% (24)	24% (67)	30% (84)	18% (50)	7% (20)	12% (32)

18. My agency requires public affairs officials to monitor scientists' communications with the media.

always	frequently	occasionally	seldom	never	don't know
27% (73)	26% (71)	20% (56)	6% (17)	4% (12)	17% (46)

CLIMATE SCIENCE WORK ENVIRONMENT (Please check all that apply)

I have perceived in others and/or personally experienced the following types of activities affecting climate science:

	<i>Perceived</i>	<i>Experienced</i>	<i>Neither</i>	
19.	32% (87)	15% (41)	57% (156)	Changes/edits during review that change the meaning of scientific findings.
20.	33% (90)	21% (57)	54% (147)	Pressure to eliminate the word(s) "climate change" and/or "global warming," and/or similar terms.
21.	18% (49)	7% (19)	77% (210)	Requests to present opposing views for "balance" even when such views would not be scientifically credible.
22.	23% (62)	22% (60)	62% (169)	Disappearance/unusual delay in the release of websites, press releases, reports, or other science-based materials.
23.	21% (56)	14% (39)	69% (187)	Self-induced pressure to change research or reporting in order to align findings with agency policy or to avoid controversy.
24.	22% (61)	13% (36)	69% (188)	Fear of retaliation for openly expressing concerns about climate change inside my agency.

52 ATMOSPHERE OF PRESSURE

25.	29% (80)	14% (39)	61% (165)	Fear of retaliation for openly expressing concerns about climate change outside my agency.
26.	8% (21)	4% (12)	89% (243)	Requests by officials for scientists to provide incomplete, inaccurate, or misleading information to the public.
27.	14% (38)	3% (8)	84% (230)	Implicit expectation by officials for scientists to provide incomplete, inaccurate, or misleading information to the public.
28.	19% (52)	36% (97)	54% (148)	New or unusual administrative requirements or procedures that impair climate-related work.
29.	23% (63)	17% (47)	63% (170)	Statements by officials at my agency that misrepresent scientists' findings.
30.	21% (55)	6% (17)	75% (200)	Situations in which scientists have actively objected to, resigned from, or removed themselves from a project because of pressure to change scientific findings.
31.	9% (4)	17% (8)	78% (36)	Other (please elaborate below in essay question #40).

32. Number of instances of any activities listed above perceived in others in the past five years:

0	1-5	6-10	11-20	More than 20
27% (69)	49% (125)	14% (35)	7% (18)	4% (10)

33. Number of instances of any activities listed above personally experienced in the past five years:

0	1-5	6-10	11-20	More than 20
42% (108)	45% (117)	9% (23)	1% (3)	3% (7)

JOB SATISFACTION (circle one)

34. I would recommend that scientists consider a career in the federal government related to climate science.

strongly agree	agree	no opinion	disagree	strongly disagree
14% (39)	47% (130)	15% (42)	17% (46)	7% (20)

35. Morale within my office is:

excellent	good	fair	poor	extremely poor	no opinion
12% (33)	34% (93)	32% (89)	15% (42)	7% (20)	0% (0)

36. Over the past few years my personal job satisfaction at my agency has:

increased	decreased	stayed the same	no opinion
20% (55)	45% (126)	30% (83)	5% (14)

If you have questions or would like to discuss this survey further, please contact
Dr. Francesca Grifo, Senior Scientist, Union of Concerned Scientists, at (202) 331-5446

APPENDIX B

UCS Climate Scientist Survey Text and Responses (NCAR)

Following is the text of the survey UCS mailed to 119 climate scientists at the National Center for Atmospheric Research (NCAR), along with response data for the 29 scientists who returned completed surveys. Two numbers are listed for each response option in the survey—the number of scientists who selected that response (listed in parentheses) and the percentage of scientists answering the question who marked that response option. (See Appendix A for survey text and response data for federal climate scientists, and Appendix C for a detailed analysis of select survey questions.)

For some questions the aggregate number of responses to a given question is less than 29 because not all scientists answered the question, and for other questions the aggregate number is greater because scientists were allowed to choose more than one response to the given question. It is important to note that the percentages listed in this appendix (and in the report text) are calculated in reference to *the number of scientists answering the question*,

rather than the total number of returned surveys or the aggregate number of responses to each question. Percentages listed for a given question may not total 100 percent due to rounding or multiple responses to a question by a scientist.

The text of the NCAR survey closely follows that of the survey sent to federal climate scientists; however, because NCAR scientists are not federal employees the language of some questions was changed to clarify the intent of the question. Questions 10–18, 23–25, 29, 34–36, and 39 substituted the word “NCAR” for “my agency” or “my office” to clarify that the question was asking about the scientists’ experiences at NCAR rather than their perceptions of the work environment at federal agencies. Question 15, which originally addressed scientific openness policies at federal agencies, was replaced with a broader question about communication policies at NCAR. Questions 5 through 8, which ask general questions about the state of federal government climate research, were left unchanged.

2006 UCS Scientific Integrity Program
SURVEY OF CLIMATE SCIENTISTS

The Union of Concerned Scientists (UCS) is the leading science-based nonprofit working for a healthy environment and a safer world. UCS combines independent scientific research and citizen action to develop innovative, practical solutions and to secure responsible changes in government policy, corporate practices, and consumer choices. This survey is produced by the UCS Scientific Integrity Program.

We are interested in comparing your experiences at NCAR with those of federal agency climate scientists. Please fill out this survey and mail it in the enclosed postage-paid envelope as soon as possible, but before July 30, 2006. All responses will be kept anonymous and confidential. Please feel free to write comments on page 4 or a separate sheet of paper. Please do not write in the margins or edit the wording of questions—we cannot tabulate responses to questions that are edited. For more information on UCS and our previous surveys of scientists at federal agencies, please see www.ucsus.org/scientific_integrity.

RESEARCH AND TRAINING (circle one)

1. My major field of training is:

climatology 10% (3)	meteorology 34% (10)	engineering 3% (1)	geology 0% (0)
physics 28% (8)	chemistry 7% (2)	biology 3% (1)	other 38% (11)

optional: list field of specialization _____

2. My climate science-related work primarily involves:

basic science 3% (1)	observation/measurement 38% (11)	modeling 48% (14)
impacts 3% (1)	management/policy 3% (1)	other: _____ 7% (2)

3. The percentage of my work having to do with climate-related topics is approximately:

0-25%	26-50%	51-75%	76-100%
21% (6)	7% (2)	39% (11)	32% (9)

4. I generally seek to publish my research findings in peer-reviewed literature.

yes 93% (26)	no 4% (1)	not applicable 4% (1)
-----------------	--------------	--------------------------

FEDERAL CLIMATE SCIENCE (circle one)

5. U.S. federal government climate research is of generally excellent quality.

strongly agree	agree	no opinion	disagree	strongly disagree
36% (10)	57% (16)	7% (2)	0% (0)	0% (0)

6. The U.S. government has done a good job funding climate research.

strongly agree	agree	no opinion	disagree	strongly disagree
10% (3)	45% (13)	3% (1)	34% (10)	7% (2)

7. U.S. federal government climate research is independent and impartial.

strongly agree	agree	no opinion	disagree	strongly disagree
29% (8)	50% (14)	14% (4)	7% (2)	0% (0)

8. Today's environment for federal government climate science is (better, worse, same) compared with:

	better	worse	same	no opinion
• 1 year ago	3% (1)	28% (8)	52% (15)	17% (5)
• 5 years ago	3% (1)	59% (17)	21% (6)	17% (5)
• 10 years ago	17% (5)	66% (19)	0% (0)	17% (5)

9. My climate science-related work touches on issues that could be considered sensitive or controversial.

always	frequently	occasionally	seldom	never
3% (1)	17% (5)	38% (11)	31% (9)	10% (3)

CLIMATE SCIENCE AT NCAR (circle one)**10. Climate science at NCAR is moving in the right direction.**

strongly agree	agree	no opinion	disagree	strongly disagree
10% (3)	76% (22)	10% (3)	3% (1)	0% (0)

11. NCAR's leadership aspires to and expects a high level of integrity and professionalism.

strongly agree	agree	no opinion	disagree	strongly disagree
52% (15)	45% (13)	0% (0)	3% (1)	0% (0)

12. NCAR's management stands behind scientific staff or managers who put forth scientifically defensible positions that may be politically controversial.

strongly agree	agree	no opinion	disagree	strongly disagree
52% (15)	34% (10)	10% (3)	3% (1)	0% (0)

13. NCAR offers opportunity for advancement based on scientific expertise, not just on administrative and supervisory expertise.

strongly agree	agree	no opinion	disagree	strongly disagree
45% (13)	45% (13)	10% (3)	0% (0)	0% (0)

14. NCAR has a clear policy on scientific communication with the public and the media.

strongly agree	agree	no opinion	disagree	strongly disagree	don't know
10% (3)	72% (21)	3% (1)	10% (3)	0% (0)	3% (1)

15. Policies at NCAR pertaining to communication accurately convey climate research to the public and the media.

strongly agree	agree	no opinion	disagree	strongly disagree	not applicable
24% (7)	52% (15)	14% (4)	7% (2)	0% (0)	3% (1)

16. Documents, reports, and recommendations from NCAR rely upon the best available science.

always	frequently	occasionally	seldom	never
59% (16)	41% (11)	0% (0)	0% (0)	0% (0)

17. NCAR helps me effectively communicate relevant research findings to the public.

always	frequently	occasionally	seldom	never	not applicable
28% (8)	24% (7)	24% (7)	0% (0)	0% (0)	24% (7)

18. NCAR requires public affairs officials to monitor scientists' communications with the media.

always	frequently	occasionally	seldom	never	don't know
0% (0)	7% (2)	7% (2)	14% (4)	41% (12)	31% (9)

CLIMATE SCIENCE WORK ENVIRONMENT (Please check all that apply)

I have perceived in others and/or personally experienced the following types of activities affecting climate science:

	<i>Perceived</i>	<i>Experienced</i>	<i>Neither</i>	
19.	21% (6)	0% (0)	79% (23)	Changes/edits during review that change the meaning of scientific findings.
20.	28% (8)	7% (2)	66% (19)	Pressure to eliminate the word(s) "climate change" and/or "global warming," and/or similar terms.
21.	14% (4)	7% (2)	83% (24)	Requests to present opposing views for "balance" even when such views would not be scientifically credible.
22.	7% (2)	7% (2)	86% (25)	Disappearance/unusual delay in the release of websites, press releases, reports, or other science-based materials.
23.	0% (0)	3% (1)	97% (28)	Self-induced pressure to change research or reporting in order to align findings with NCAR policy or to avoid controversy.
24.	0% (0)	0% (0)	100% (29)	Fear of retaliation for openly expressing concerns about climate change inside NCAR.

58 ATMOSPHERE OF PRESSURE

25.	14% (4)	7% (2)	83% (24)	Fear of retaliation for openly expressing concerns about climate change outside NCAR.
26.	3% (1)	0% (0)	97% (28)	Requests by officials for scientists to provide incomplete, inaccurate, or misleading information to the public.
27.	7% (2)	3% (1)	93% (27)	Implicit expectation by officials for scientists to provide incomplete, inaccurate, or misleading information to the public.
28.	7% (2)	17% (5)	79% (23)	New or unusual administrative requirements or procedures that impair climate-related work.
29.	4% (1)	0% (0)	96% (27)	Statements by officials at NCAR that misrepresent scientists' findings.
30.	10% (3)	0% (0)	90% (26)	Situations in which scientists have actively objected to, resigned from, or removed themselves from a project because of pressure to change scientific findings.
31.	0% (0)	0% (0)	100% (7)	Other (please elaborate below in essay question #40.)

32. Number of instances of any activities listed above perceived in others in the past five years:

0	1-5	6-10	11-20	More than 20
61% (17)	29% (8)	11% (3)	0% (0)	0% (0)

33. Number of instances of any activities listed above personally experienced in the past five years:

0	1-5	6-10	11-20	More than 20
78% (21)	19% (5)	4% (1)	0% (0)	0% (0)

JOB SATISFACTION (circle one)

34. I would recommend that scientists consider a career at NCAR related to climate science.

strongly agree	agree	no opinion	disagree	strongly disagree
48% (14)	48% (14)	3% (1)	0% (0)	0% (0)

35. Morale within NCAR is:

excellent	good	fair	poor	extremely poor	no opinion
17% (5)	52% (15)	24% (7)	7% (2)	0% (0)	0% (0)

36. Over the past few years my personal job satisfaction at NCAR has:

increased	decreased	stayed the same	no opinion
25% (7)	39% (11)	32% (9)	4% (1)

Dr. Francesca Grifo, Senior Scientist, Union of Concerned Scientists, at 202-331-5446.

APPENDIX C

Selected Survey Results

The tables below show detailed response data for select survey questions referenced in the report text. The first set of tables show the total number of responses to a question broken down by each federal agency and the National Center for Atmospheric Research (NCAR). The second set of tables provides cross-comparisons with survey questions #3 (percentage of work having to do with climate-related topics) and #9 (how often climate science-related work touches on sensitive or controversial issues). Additional survey data and analyses are available online at <http://www.ucsusa.org/surveys>.

Selected Question Responses by Agency
The tables below break down survey questions based on the respondents' affiliated agencies. The leftmost column in each table lists the available response options to the given question.

The column labeled "Total" lists the total number of scientists who chose each available response option and represents the sum of responses listed in the individual federal agency columns to the right (NCAR responses are listed in the rightmost column for comparison purposes only and are not included in the agency totals). The row labeled "Total Respondents" lists the total number of respondents to the given question (leftmost number) as well as the total number of respondents from each agency.

The percentages listed in each table are calculated with respect to the total number of scientists from each agency answering each question. For questions that allowed multiple responses, the sum of response numbers listed in the columns may be greater than the number listed at the bottom of the column.

QUESTION 5: U.S. federal government climate research is of generally excellent quality.

	Total	NASA	NOAA	EPA	USGS	USDA	DOE	DOD	NCAR
Strongly Agree	98 35.1%	23 40.4%	39 40.6%	2 11.1%	6 23.1%	4 22.2%	22 37.3%	2 40.0%	10 35.7%
Agree	147 52.3%	28 49.1%	46 47.9%	11 61.1%	19 72.1%	13 72.2%	28 47.5%	2 40.0%	16 57.1%
No Opinion	19 6.8%	4 7.0%	6 6.3%	2 11.1%	0 0.0%	1 5.6%	5 8.3%	1 20.0%	2 7.1%
Disagree	12 4.3%	2 3.5%	4 4.2%	3 16.7%	1 3.8%	0 0.0%	2 3.4%	0 0.0%	0 0.0%
Strongly Disagree	3 1.1%	0 0.0%	1 1.0%	0 0.0%	0 0.0%	0 0.0%	2 3.4%	0 0.0%	0 0.0%
Total Respondents	279	57	96	18	26	18	59	5	28

QUESTION 6: The U.S. government has done a good job funding climate research.

	Total	NASA	NOAA	EPA	USGS	USDA	DOE	DOD	NCAR
Strongly Agree	18 6.5%	7 12.3%	5 5.2%	0 0.0%	1 3.8%	2 11.1%	3 5.1%	0 0.0%	3 10.3%
Agree	86 30.9%	22 38.6%	31 32.3%	4 23.5%	7 26.9%	6 33.3%	14 23.7%	2 40.0%	13 44.8%
No Opinion	26 9.4%	3 5.3%	9 9.4%	3 17.6%	1 3.8%	1 5.6%	7 11.9%	2 40.0%	1 3.4%
Disagree	117 42.1%	17 29.8%	40 41.7%	8 47.1%	15 57.7%	8 44.4%	28 47.5%	1 20.0%	10 34.5%
Strongly Disagree	31 11.2%	8 14.0%	11 11.5%	2 11.8%	2 7.7%	1 5.6%	7 11.9%	0 0.0%	2 6.9%
Total Respondents	278	57	96	17	36	18	59	5	29

QUESTION 8a: Today's environment for federal government climate science is (better, worse, same) compared with 1 year ago.

	Total	NASA	NOAA	EPA	USGS	USDA	DOE	DOD	NCAR
Better	38 13.9%	7 12.5%	11 11.7%	0 0.0%	5 19.2%	6 35.3%	9 15.2%	0 0.0%	1 3.4%
Worse	116 42.5%	32 57.1%	43 45.7%	7 38.9%	10 38.5%	4 23.5%	17 29.0%	3 60.0%	8 27.6%
Same	108 39.6%	17 30.4%	34 36.2%	10 55.6%	10 38.5%	6 35.3%	29 50.9%	2 40.0%	15 51.7%
No Opinion	11 4.0%	0 0.0%	6 6.4%	1 5.6%	1 3.8%	1 5.6%	2 3.5%	0 0.0%	5 17.2%
Total Respondents	273	56	94	18	26	17	57	5	29

QUESTION 8b: Today's environment for federal government climate science is (better, worse, same) compared with 5 years ago.

	Total	NASA	NOAA	EPA	USGS	USDA	DOE	DOD	NCAR
Better	35 12.9%	4 7.1%	10 10.6%	0 0.0%	5 19.2%	2 11.8%	14 24.1%	0 0.0%	1 3.4%
Worse	182 66.9%	44 78.6%	62 66.7%	13 72.2%	16 61.5%	10 58.8%	33 56.9%	4 100.0%	17 58.6%
Same	41 15.1%	6 10.7%	14 15.1%	2 11.1%	5 19.2%	3 17.6%	11 19.0%	0 0.0%	6 20.7%
No Opinion	14 5.1%	2 3.6%	7 7.5%	3 16.7%	0 0.0%	2 11.8%	0 0.0%	0 0.0%	5 17.2%
Total Respondents	272	56	93	18	36	17	58	4	29

QUESTION 8c: Today's environment for federal government climate science is (better, worse, same) compared with 10 years ago.

	Total	NASA	NOAA	EPA	USGS	USDA	DOE	DOD	NCAR
Better	48 17.5%	4 7.0%	18 19.4%	0 0.0%	5 19.2%	3 16.7%	18 31.0%	0 0.0%	5 17.2%
Worse	170 64.2%	44 72.2%	55 59.1%	13 72.2%	17 65.4%	12 66.7%	32 55.2%	3 75.0%	19 65.5%
Same	23 8.4%	5 8.8%	9 9.7%	2 11.1%	2 7.7%	1 5.8%	4 6.9%	0 0.0%	0 0.0%
No Opinion	27 9.9%	4 7.0%	11 11.8%	3 16.7%	2 7.7%	2 11.1%	4 6.9%	1 25.0%	5 17.2%
Total Respondents	274	57	93	18	26	18	58	4	29

QUESTION 10: Climate science at my agency is moving in the right direction.

	Total	NASA	NOAA	EPA	USGS	USDA	DOE	DOD	NCAR
Strongly Agree	10 3.6%	1 1.8%	4 4.3%	0 0.0%	1 3.8%	1 5.8%	3 5.1%	0 0.0%	3 10.3%
Agree	122 43.9%	19 33.3%	51 53.7%	3 16.7%	8 30.8%	10 55.6%	28 47.5%	3 60.0%	22 75.9%
No Opinion	25 9.0%	1 1.8%	11 11.6%	0 0.0%	5 19.2%	3 16.7%	4 6.8%	1 20.0%	3 10.3%
Disagree	95 34.2%	26 45.6%	34 35.7%	8 44.4%	11 42.3%	4 22.2%	21 35.4%	1 20.0%	1 3.4%
Strongly Disagree	26 9.4%	10 17.5%	5 5.3%	7 38.9%	1 3.8%	0 0.0%	3 5.1%	0 0.0%	0 0.0%
Total Respondents	278	57	95	18	26	18	59	5	29

QUESTION 11: My agency's leadership aspires to and expects a high level of integrity and professionalism.

	Total	NASA	NOAA	EPA	USGS	USDA	DOE	DOD	NCAR
Strongly Agree	83 29.7%	21 35.8%	20 20.8%	4 22.2%	10 38.5%	9 50.0%	18 30.3%	1 20.0%	15 51.7%
Agree	148 53.1%	29 50.9%	53 55.2%	10 55.6%	13 50.0%	8 44.4%	21 32.5%	4 80.0%	13 44.8%
No Opinion	24 8.6%	2 3.5%	12 12.5%	1 5.6%	1 3.8%	1 5.6%	7 11.9%	0 0.0%	0 0.0%
Disagree	18 6.5%	3 5.3%	10 10.4%	1 5.6%	2 7.7%	0 0.0%	2 3.4%	0 0.0%	1 3.4%
Strongly Disagree	6 2.2%	2 3.5%	1 1.0%	2 11.1%	0 0.0%	0 0.0%	1 1.7%	0 0.0%	0 0.0%
Total Respondents	279	57	96	18	26	18	59	5	29

QUESTION 12: My agency's management stands behind scientific staff or managers who put forth scientifically defensible positions that may be politically controversial.

	Total	NASA	NOAA	EPA	USGS	USDA	DOE	DOD	NCAR
Strongly Agree	24 8.7%	7 12.3%	3 3.2%	0 0.0%	6 24.0%	3 16.7%	5 8.5%	0 0.0%	15 51.7%
Agree	109 39.5%	33 57.9%	30 31.6%	3 17.6%	7 28.0%	9 50.0%	25 42.4%	2 40.0%	10 34.5%
No Opinion	63 22.8%	9 15.8%	23 24.2%	4 23.5%	5 20.0%	2 11.1%	18 30.5%	2 40.0%	3 10.3%
Disagree	68 24.6%	6 10.5%	32 33.7%	8 47.1%	7 28.0%	4 22.2%	10 16.9%	1 20.0%	1 3.4%
Strongly Disagree	12 4.3%	2 3.5%	7 7.4%	2 11.8%	0 0.0%	0 0.0%	1 1.7%	0 0.0%	0 0.0%
Total Respondents	276	57	95	17	25	18	59	5	29

QUESTION 15: Recent changes to policies pertaining to scientific openness at my agency have improved the environment for climate research.

	Total	NASA	NOAA	EPA	USGS	USDA	DOE	DOD	NCAR
Strongly Agree	8 2.9%	7 12.5%	1 1.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	7 24.1%
Agree	50 18.1%	26 46.4%	15 15.6%	0 0.0%	1 4.0%	1 5.6%	7 11.9%	0 0.0%	15 51.7%
No Opinion	93 33.6%	10 17.9%	29 30.2%	8 44.4%	6 24.0%	10 55.6%	27 45.8%	3 60.0%	4 13.8%
Disagree	69 24.9%	6 10.7%	33 34.4%	3 16.7%	14 56.0%	3 16.7%	9 15.3%	1 20.0%	2 6.9%
Strongly Disagree	33 11.9%	5 8.9%	15 15.6%	5 27.8%	3 12.0%	2 11.1%	3 5.1%	0 0.0%	0 0.0%
Not Applicable	24 8.7%	2 3.6%	3 3.1%	2 11.1%	1 4.0%	2 11.1%	13 22.0%	1 20.0%	1 3.4%
Total Respondents	277	56	96	18	25	18	59	5	29

QUESTION 18: My agency requires public affairs officials to monitor scientists' communications with the media.

	Total	NASA	NOAA	EPA	USGS	USDA	DOE	DOD	NCAR
Always	73 36.3%	13 23.2%	22 23.2%	13 72.2%	1 3.8%	7 38.9%	15 26.3%	2 40.0%	0 0.0%
Frequently	71 25.8%	14 25.0%	29 30.5%	2 11.1%	10 38.5%	6 33.3%	8 15.8%	1 20.0%	2 6.9%
Occasionally	56 20.4%	14 25.0%	22 23.2%	1 5.6%	8 30.8%	1 5.6%	9 15.8%	1 20.0%	2 6.9%
Seldom	17 6.2%	6 10.7%	3 3.2%	0 0.0%	3 11.5%	2 11.1%	3 5.3%	0 0.0%	4 12.8%
Never	12 4.4%	2 3.6%	2 2.1%	0 0.0%	3 11.5%	1 5.6%	4 7.0%	0 0.0%	12 41.4%
Don't Know	40 16.7%	7 12.5%	17 17.9%	2 11.1%	1 3.8%	1 5.6%	17 29.8%	1 20.0%	9 31.0%
Total Respondents	275	56	95	18	26	18	57	5	29

QUESTION 19: I have perceived in others and/or personally experienced: Changes/edits during review that change the meaning of scientific findings.

	Total	NASA	NOAA	EPA	USGS	USDA	DOE	DOD	NCAR
Perceived	87 31.9%	19 34.5%	38 40.9%	4 22.2%	7 26.9%	4 22.2%	15 25.9%	0 0.0%	6 20.7%
Experienced	41 15.0%	14 25.5%	9 9.7%	4 22.2%	3 11.5%	4 22.2%	7 12.1%	0 0.0%	0 0.0%
Neither	156 57.1%	26 47.3%	49 52.7%	10 55.6%	17 65.4%	11 61.1%	38 65.5%	5 100.0%	23 79.3%
Total Respondents	273	55	93	18	26	18	58	5	29

QUESTION 20: I have perceived in others and/or personally experienced: Pressure to eliminate the word(s) "climate change" and/or "global warming" and/or similar terms.

	Total	NASA	NOAA	EPA	USGS	USDA	DOE	DOD	NCAR
Perceived	90 32.8%	31 58.2%	38 40.8%	6 33.3%	7 26.9%	4 22.2%	14 24.1%	0 0.0%	8 27.6%
Experienced	57 20.8%	11 20.0%	25 26.8%	4 22.2%	6 23.1%	3 16.7%	7 12.1%	1 20.0%	2 6.9%
Neither	147 53.6%	26 47.3%	39 41.5%	10 55.6%	17 65.4%	12 66.7%	39 67.2%	4 80.0%	19 65.5%
Total Respondents	274	55	94	18	26	18	58	5	29

QUESTION 22: I have perceived in others and/or personally experienced: Disappearance/unusual delay in the release of websites, press releases, reports, or other science-based materials.

	Total	NASA	NOAA	EPA	USGS	USDA	DOE	DOO	NCAR
Perceived	62 22.2%	18 32.7%	23 23.8%	6 35.3%	3 11.5%	3 16.7%	10 17.2%	0 0.0%	2 6.9%
Experienced	60 22.0%	13 23.6%	23 24.5%	8 47.1%	4 15.4%	4 22.2%	7 12.1%	1 20.0%	2 6.9%
Neither	169 61.9%	29 52.7%	56 59.6%	6 35.3%	20 76.9%	12 66.7%	42 72.4%	4 80.0%	25 86.2%
Total Respondents	273	55	94	17	26	18	58	5	29

QUESTION 25: I have perceived in others and/or personally experienced: Fear of retaliation for openly expressing concerns about climate change outside my agency.

	Total	NASA	NOAA	EPA	USGS	USDA	DOE	DOO	NCAR
Perceived	80 29.4%	21 38.2%	27 29.0%	4 23.5%	12 46.2%	5 27.8%	10 17.2%	1 20.0%	4 13.8%
Experienced	39 14.3%	6 10.9%	15 16.1%	3 17.6%	6 23.1%	1 5.6%	7 12.1%	1 20.0%	2 6.9%
Neither	165 60.7%	30 54.9%	54 58.1%	10 58.8%	13 50.0%	13 72.2%	42 72.4%	3 60.0%	24 82.8%
Total Respondents	272	55	93	17	26	18	58	5	29

QUESTION 28: I have perceived in others and/or personally experienced: New or unusual administrative requirements or procedures that impair climate-related work.

	Total	NASA	NOAA	EPA	USGS	USDA	DOE	DOO	NCAR
Perceived	52 19.1%	14 25.6%	22 23.7%	0 0.0%	7 26.9%	2 11.1%	7 12.1%	0 0.0%	2 6.9%
Experienced	97 35.5%	21 37.5%	38 40.9%	7 41.2%	11 42.3%	3 16.7%	16 27.6%	1 20.0%	5 17.7%
Neither	148 54.2%	28 50.0%	44 47.3%	10 58.8%	11 42.3%	14 77.8%	37 63.8%	4 80.0%	23 79.3%
Total Respondents	273	55	93	17	26	18	58	5	29

QUESTION 29: I have perceived in others and/or personally experienced:
Statements by officials at my agency that misrepresent scientists' findings.

	Total	NASA	NOAA	EPA	USGS	USDA	DOE	DOD	NCAR
Perceived	63 23.4%	18 32.7%	28 30.1%	3 17.6%	2 8.0%	5 27.8%	7 12.5%	0 0.0%	1 3.6%
Experienced	47 17.5%	6 10.9%	26 28.0%	5 29.4%	2 8.0%	2 11.1%	6 10.7%	0 0.0%	0 0.0%
Neither	170 63.2%	34 61.8%	46 49.5%	9 52.9%	21 84.0%	11 61.1%	44 78.6%	8 100.0%	27 86.4%
Total Respondents	269	55	93	17	25	18	56	8	28

QUESTION 30: I have perceived in others and/or personally experienced:
Situations in which scientists have actively objected to, resigned from, or removed
themselves from a project because of pressure to change scientific findings.

	Total	NASA	NOAA	EPA	USGS	USDA	DOE	DOD	NCAR
Perceived	55 20.5%	13 23.6%	19 20.9%	2 11.8%	8 20.0%	4 22.2%	12 21.1%	0 0.0%	3 10.3%
Experienced	17 6.3%	3 5.5%	6 6.6%	2 11.8%	3 12.0%	2 11.1%	1 1.8%	0 0.0%	0 0.0%
Neither	200 74.6%	40 72.7%	68 74.7%	13 76.5%	17 68.0%	13 72.2%	44 77.2%	8 100.0%	26 89.7%
Total Respondents	268	55	91	17	25	18	57	8	29

QUESTION 32: Number of instances of any activities listed above**
perceived in others in the past five years:

	Total	NASA	NOAA	EPA	USGS	USDA	DOE	DOD	NCAR
0	69 26.8%	8 15.4%	17 19.3%	3 18.8%	8 32.0%	9 52.9%	20 37.0%	4 60.0%	17 60.7%
1-5	125 48.6%	28 53.8%	50 56.8%	7 43.8%	13 52.0%	7 41.2%	20 37.0%	0 0.0%	8 28.6%
6-10	35 13.4%	9 17.3%	11 12.5%	4 25.0%	2 8.0%	0 0.0%	9 16.7%	0 0.0%	3 10.7%
11-20	18 7.0%	3 5.8%	8 9.1%	1 6.3%	2 8.0%	1 5.9%	3 5.6%	0 0.0%	0 0.0%
More than 20	10 3.9%	4 7.7%	2 2.3%	1 6.3%	0 0.0%	0 0.0%	2 3.7%	1 20.0%	0 0.0%
Total Respondents	257	52	88	16	25	17	54	5	28

** Number of incidents reflects activities listed in survey questions 19-31 in Appendices A and B.

QUESTION 33: Number of instances of any activities listed above** personally experienced in the past five years:

	Total	NASA	NOAA	EPA	USGS	USDA	DOE	DOD	NCAR
0	100 41.9%	21 40.4%	33 37.1%	5 31.2%	9 36.0%	8 47.1%	28 51.9%	4 80.0%	21 77.8%
1-5	117 45.3%	24 46.2%	41 46.1%	9 56.2%	12 48.0%	9 52.9%	22 40.7%	0 0.0%	5 18.5%
6-10	23 8.9%	5 9.6%	13 14.6%	0 0.0%	3 12.0%	0 0.0%	2 3.7%	0 0.0%	1 3.7%
11-20	3 1.2%	2 3.8%	0 0.0%	0 0.0%	1 4.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
More than 20	7 2.7%	0 0.0%	2 2.2%	2 12.5%	0 0.0%	0 0.0%	2 3.7%	1 20.0%	0 0.0%
Total Respondents	238	52	89	16	25	17	54	5	27

** Number of incidents reflects activities listed in survey questions 19-31 in Appendices A and B.

QUESTION 35: Morale within my office is:

	Total	NASA	NOAA	EPA	USGS	USDA	DOE	DOD	NCAR
Excellent	32 11.6%	9 16.1%	7 7.3%	0 0.0%	1 4.7%	9 50.0%	6 10.2%	0 0.0%	5 17.2%
Good	93 33.7%	8 14.3%	43 44.8%	6 33.3%	4 16.7%	4 22.2%	27 45.8%	1 20.0%	15 51.7%
Fair	89 32.2%	19 33.9%	25 26.0%	7 38.9%	13 54.2%	4 22.2%	17 28.8%	4 80.0%	7 24.1%
Poor	42 15.2%	13 23.2%	15 15.6%	2 11.1%	4 16.7%	1 5.6%	7 11.9%	0 0.0%	2 6.9%
Extremely Poor	20 7.2%	7 12.5%	6 6.3%	3 16.7%	2 8.3%	0 0.0%	2 3.4%	0 0.0%	0 0.0%
Total Respondents	276	56	96	18	24	18	59	5	29

QUESTION 36: Over the past few years my personal job satisfaction at my agency has:

	Total	NASA	NOAA	EPA	USGS	USDA	DOE	DOD	NCAR
Increased	55 19.8%	11 19.3%	20 20.8%	1 5.6%	4 16.0%	10 55.6%	8 13.6%	1 20.0%	7 25.0%
Decreased	126 45.3%	35 61.4%	42 43.8%	9 50.0%	17 68.0%	3 16.7%	18 30.5%	2 40.0%	11 39.3%
Stayed the same	83 29.9%	9 15.8%	29 30.2%	7 38.9%	4 16.0%	4 22.2%	28 47.5%	2 40.0%	9 32.1%
No Opinion	14 5.0%	2 3.5%	5 5.2%	1 5.6%	0 0.0%	1 5.6%	5 8.5%	0 0.0%	1 3.6%
Total Respondents	278	57	96	18	25	18	59	5	28

Selected Survey Response Cross-Comparisons

The tables below break down survey question responses based on scientists' responses to a second question within the survey. The two columns on the left side of each table list the first survey question, the available responses to that question, and the total number of scientists who chose each available response option. The remaining columns list the second survey question (either Question 3 or Question 9), the set of available responses to the second question, and the total respondents for each available response option. The row labeled "Total Respondents" lists the total number of respondents to

the first question as well as the total number of respondents for each of the response options to the second question. The totals listed for the first question will not always equal the sum of respondents for the second question because a given survey respondent may not have answered both questions being considered.

The percentages listed in each table are calculated with respect to the total number of scientists answering each question. For questions that allowed multiple responses, the sum of response numbers listed in the columns may be greater than the number listed at the bottom of the column.

Breakdown of Question 8a Responses According to the Controversial Nature of Respondents' Work (Question 9)

8a. Today's environment for federal government climate science is (better, worse, same) compared with 1 year ago.		9. My climate science-related work touches on issues that could be considered sensitive or controversial.				
Response	Question 8a Total	Always	Frequently	Occasionally	Seldom	Never
Better	38 13.9%	2 14.3%	13 19.7%	16 12.6%	6 12.5%	0 0.0%
Worse	116 42.5%	9 64.3%	26 39.4%	56 44.1%	18 37.5%	6 40.0%
Same	108 39.6%	3 21.4%	25 37.9%	50 39.4%	22 45.8%	7 46.7%
No Opinion	11 4.0%	0 0.0%	2 3.0%	5 3.9%	2 4.2%	2 13.3%
Total Respondents	273	14	66	127	48	15

Breakdown of Question 8b Responses According to the Controversial
Nature of Respondents' Work (Question 9)

8b. Today's environment for federal government climate science is (better, worse, same) compared with 5 years ago.		9. My climate science-related work touches on issues that could be considered sensitive or controversial.				
Response	Question 8b Total	Always	Frequently	Occasionally	Seldom	Never
Better	35 12.0%	1 7.1%	10 14.9%	17 13.5%	6 12.8%	0 0.0%
Worse	182 66.9%	11 78.6%	44 65.7%	82 65.1%	31 66.0%	12 80.0%
Same	41 15.1%	1 7.1%	8 11.9%	21 16.7%	8 17.0%	3 20.0%
No Opinion	14 5.1%	1 7.1%	5 7.5%	6 4.8%	2 4.3%	0 0.0%
Total Respondents	272	14	67	126	47	15

Breakdown of Question 8c Responses According to the Controversial
Nature of Respondents' Work (Question 9)

8c. Today's environment for federal government climate science is (better, worse, same) compared with 10 years ago.		9. My climate science-related work touches on issues that could be considered sensitive or controversial.				
Response	Question 8c Total	Always	Frequently	Occasionally	Seldom	Never
Better	40 17.5%	1 6.7%	12 18.2%	26 20.3%	7 14.6%	1 6.7%
Worse	176 64.2%	12 80.0%	43 65.2%	75 59.1%	35 72.9%	9 60.0%
Same	23 8.4%	1 6.7%	3 4.5%	13 10.2%	4 8.3%	2 13.3%
No Opinion	27 9.9%	1 6.7%	8 12.1%	13 10.2%	2 4.2%	3 20.0%
Total Respondents	274	15	66	127	48	15

Breakdown of Question 19 Responses According to the Controversial Nature of Respondents' Work (Question 9)

19. I have perceived in others and/or personally experienced: Changes/ edits during review that change the meaning of scientific findings.		9. My climate science-related work touches on issues that could be considered sensitive or controversial.				
Response	Question 19 Total	Always	Frequently	Occasionally	Seldom	Never
Perceived	87 31.9%	4 25.0%	25 36.5%	41 32.5%	13 27.1%	3 20.0%
Experienced	41 15.0%	5 31.2%	18 27.7%	15 11.9%	3 6.3%	0 0.0%
Neither	156 57.1%	8 50.0%	25 38.5%	76 60.3%	33 66.8%	12 60.0%
Total Respondents	273	16	65	126	48	15

Breakdown of Question 20 Responses According to the Controversial Nature of Respondents' Work (Question 9)

20. I have perceived in others and/or personally experienced: Pressure to eliminate the word(s) "climate change" and/or "global warming" and/or similar terms.		9. My climate science-related work touches on issues that could be considered sensitive or controversial.				
Response	Question 20 Total	Always	Frequently	Occasionally	Seldom	Never
Perceived	90 32.8%	8 50.0%	23 35.4%	42 32.8%	10 21.2%	5 33.3%
Experienced	57 20.8%	7 43.8%	20 30.8%	22 17.2%	6 12.8%	0 0.0%
Neither	147 53.6%	4 25.0%	29 44.8%	71 55.5%	32 68.1%	10 66.7%
Total Respondents	274	16	65	128	47	15

Breakdown of Question 22 Responses According to the Controversial Nature of Respondents' Work (Question 9)

22. I have perceived in others and/or personally experienced: Disappearance/unusual delay in the release of websites, press releases, reports, or other science-based materials.		9. My climate science-related work touches on issues that could be considered sensitive or controversial.				
Response	Question 22 Total	Always	Frequently	Occasionally	Seldom	Never
Perceived	62 22.7%	4 25.0%	19 29.2%	31 24.4%	5 10.4%	1 7.1%
Experienced	60 22.0%	8 50.0%	25 38.5%	19 15.0%	7 14.6%	0 0.0%
Neither	169 61.9%	7 43.8%	29 44.6%	63 65.4%	36 75.0%	13 92.9%
Total Respondents	273	16	65	127	48	14

Breakdown of Question 25 Responses According to the Controversial Nature of Respondents' Work (Question 9)

25. I have perceived in others and/or personally experienced: Fear of retaliation for openly expressing concerns about climate change outside my agency.		9. My climate science-related work touches on issues that could be considered sensitive or controversial.				
Response	Question 25 Total	Always	Frequently	Occasionally	Seldom	Never
Perceived	80 29.4%	3 18.8%	27 40.9%	37 29.6%	11 22.9%	0 0.0%
Experienced	39 14.3%	9 56.2%	16 24.2%	11 8.8%	2 4.2%	0 0.0%
Neither	165 60.7%	5 31.2%	29 43.9%	81 64.8%	35 72.9%	14 100.0%
Total Respondents	272	16	66	125	48	14

Breakdown of Question 28 Responses According to the Controversial Nature of Respondents' Work (Question 9)

28. I have perceived in others and/or personally experienced: New or unusual administrative requirements or procedures that impair climate-related work.		9. My climate science-related work touches on issues that could be considered sensitive or controversial.				
Response	Question 28 Total	Always	Frequently	Occasionally	Seldom	Never
Perceived	52 19.1%	0 0.0%	18 26.9%	28 22.4%	4 8.3%	1 7.1%
Experienced	97 35.5%	11 68.8%	34 50.7%	41 32.8%	6 12.3%	4 28.6%
Neither	148 54.2%	5 11.3%	23 37.3%	68 54.4%	39 81.2%	9 64.3%
Total Respondents	273	16	67	125	48	14

Breakdown of Question 29 Responses According to the Controversial Nature of Respondents' Work (Question 9)

29. I have perceived in others and/or personally experienced: Statements by officials at my agency that misrepresent scientists' findings.		9. My climate science-related work touches on issues that could be considered sensitive or controversial.				
Response	Question 29 Total	Always	Frequently	Occasionally	Seldom	Never
Perceived	63 23.4%	3 18.8%	21 32.8%	29 23.4%	7 14.6%	1 7.1%
Experienced	47 17.5%	4 25.0%	17 26.6%	19 15.3%	4 8.3%	3 21.4%
Neither	170 63.2%	9 56.2%	31 48.4%	82 66.1%	37 77.1%	10 71.4%
Total Respondents	269	16	64	124	48	14

Breakdown of Question 30 Responses According to the Controversial Nature of Respondents' Work (Question 9)

30. I have perceived in others and/or personally experienced. Situations in which scientists have actively objected to, resigned from, or removed themselves from a project because of pressure to change scientific findings.		9. My climate science-related work touches on issues that could be considered sensitive or controversial.				
Response	Question 30 Total	Always	Frequently	Occasionally	Seldom	Never
Perceived	55 20.5%	4 7.5%	23 34.8%	22 18.0%	6 12.8%	0 0.0%
Experienced	17 6.3%	1 6.3%	11 16.7%	4 3.3%	1 3.1%	0 0.0%
Neither	200 74.6%	11 68.8%	35 53.0%	97 79.5%	40 65.1%	14 100.0%
Total Respondents	268	16	66	122	47	14

Breakdown of Question 32 Responses According to the Controversial Nature of Respondents' Work (Question 9)

32. Number of instances of any activities listed above** perceived in others in the past five years:		9. My climate science-related work touches on issues that could be considered sensitive or controversial.				
Response	Question 32 Total	Always	Frequently	Occasionally	Seldom	Never
0	69 26.6%	2 14.3%	10 16.1%	30 25.6%	19 40.4%	8 57.1%
1-5	125 48.6%	6 42.9%	27 43.5%	60 51.3%	24 51.1%	6 42.9%
6-10	35 13.6%	3 21.4%	11 17.7%	19 16.2%	2 4.3%	0 0.0%
11-20	18 7.0%	2 14.3%	10 16.1%	4 3.4%	1 2.1%	0 0.0%
More than 20	10 3.9%	1 7.1%	4 6.5%	4 3.4%	1 2.1%	0 0.0%
Total Respondents	257	14	62	117	47	14

** Number of incidents reflects activities listed in survey questions 19-31 in Appendices A and B.

Breakdown of Question 33 Responses According to the Controversial Nature of Respondents' Work (Question 9)

33. Number of instances of any activities listed above** personally experienced in the past five years:		9. My climate science-related work touches on issues that could be considered sensitive or controversial.				
Response	Question 33 Total	Always	Frequently	Occasionally	Seldom	Never
0	108 41.0%	1 7.1%	16 25.4%	47 29.8%	33 70.2%	11 84.6%
1-5	117 45.3%	7 50.0%	32 50.8%	62 52.5%	13 27.7%	3 15.4%
6-10	23 8.9%	5 35.7%	19 55.9%	7 5.9%	0 0.0%	0 0.0%
11-20	3 1.2%	0 0.0%	2 3.2%	0 0.0%	0 0.0%	0 0.0%
More than 20	7 2.7%	1 7.1%	3 4.8%	2 1.7%	1 2.1%	0 0.0%
Total Respondents	258	14	63	118	47	13

** Number of incidents reflects activities listed in survey questions 19-21 in Appendices A and B.

Breakdown of Question 8a Responses According to the Percent of Respondents' Time Spent on Climate-related Issues (Question 3)

8a. Today's environment for federal government climate science is (better, worse, same) compared with 1 year ago.		3. The percentage of my work having to do with climate-related topics is approximately:			
Response	Question 8a Total	0%-25%	26%-50%	51%-75%	76%-100%
Better	28 13.9%	7 20.0%	8 12.5%	9 14.5%	17 12.8%
Worse	118 42.5%	8 22.9%	16 40.0%	22 37.1%	66 49.6%
Same	108 39.8%	17 40.0%	18 45.0%	26 41.9%	47 35.3%
No Opinion	11 4.0%	3 8.0%	1 3.3%	4 6.5%	3 2.3%
Total Respondents	273	36	40	62	133

Breakdown of Question 8b Responses According to the Percent of Respondents' Time Spent on Climate-related Issues (Question 3)

8b. Today's environment for federal government climate science is (better, worse, same) compared with 5 years ago.		3. The percentage of my work having to do with climate-related topics is approximately:			
Response	Question 8b Total	0%–25%	26%–50%	51%–75%	76%–100%
Better	35 12.9%	6 17.6%	7 17.5%	6 9.8%	15 11.2%
Worse	182 66.9%	19 55.9%	26 65.0%	39 63.9%	96 71.6%
Same	41 15.1%	6 17.6%	5 12.5%	13 21.3%	17 12.7%
No Opinion	14 5.1%	3 8.8%	2 5.0%	3 4.9%	6 4.5%
Total Respondents	272	34	40	61	134

Breakdown of Question 8c Responses According to the Percent of Respondents' Time Spent on Climate-related Issues (Question 3)

8c. Today's environment for federal government climate science is (better, worse, same) compared with 10 years ago.		3. The percentage of my work having to do with climate-related topics is approximately:			
Response	Question 8c Total	0%–25%	26%–50%	51%–75%	76%–100%
Better	48 17.5%	7 20.6%	6 15.0%	10 16.1%	24 17.8%
Worse	176 64.2%	21 61.8%	28 70.0%	36 58.1%	90 66.7%
Same	23 8.4%	2 5.9%	2 5.0%	8 12.9%	10 7.4%
No Opinion	27 9.9%	4 11.8%	4 10.0%	8 12.9%	11 8.1%
Total Respondents	274	34	40	62	135

Responses According to the Percent of Respondents' Time Spent on Climate-related Issues (Question 3)

32. Number of instances of any activities listed above** perceived in others in the past five years:		3. The percentage of my work having to do with climate-related topics is approximately:			
Response	Question 32 Total	0%–25%	26%–50%	51%–75%	76%–100%
0	69 26.8%	13 40.6%	12 31.6%	18 31.6%	24 18.9%
1–5	125 48.6%	18 56.2%	19 50.0%	25 43.9%	62 48.8%
6–10	35 13.6%	0 0.0%	6 15.8%	8 14.0%	21 16.5%
11–20	18 7.0%	1 3.1%	1 2.6%	5 8.8%	11 8.7%
More than 20	10 3.9%	0 0.0%	0 0.0%	1 1.8%	9 7.1%
Total Respondents	257	32	38	57	127

** Number of incidents reflects activities listed in survey questions 19–31 in Appendices A and B.

Responses According to the Percent of Respondents' Time Spent on Climate-related Issues (Question 3)

33. Number of instances of any activities listed above** personally experienced in the past five years:		3. The percentage of my work having to do with climate-related topics is approximately:			
Response	Question 33 Total	0%–25%	26%–50%	51%–75%	76%–100%
0	108 41.9%	21 67.7%	16 41.0%	25 43.9%	43 33.6%
1–5	117 45.3%	9 29.0%	22 56.4%	27 47.4%	59 46.1%
6–10	23 8.9%	1 3.2%	1 2.6%	3 5.3%	18 14.1%
11–20	3 1.2%	0 0.0%	0 0.0%	1 1.8%	2 1.6%
More than 20	7 2.7%	0 0.0%	0 0.0%	1 1.8%	6 4.7%
Total Respondents	258	31	39	57	128

** Number of incidents reflects activities listed in survey questions 19–31 in Appendices A and B.

APPENDIX D

Model Media Policy

The text below serves as template for a media policy federal agencies could adopt to ensure free and open communication between scientists, the media, policy makers, and the public. This model policy was written by Tarek Maassarani, former lead investigator for the Government Accountability Project, and the language draws partially from media policies adopted at the National Aeronautics and Space Administration and the National Oceanic and Atmospheric Administration. In the first paragraph below, "(agency)" would be replaced by the official name of the agency if the agency were to adopt this policy language.

Model Media Policy**Section 1: Purpose**

.01 This Order establishes the ___(agency)___ media policy governing media communications including advisories, press releases, statements, interviews, news conferences, and other related media contacts. Public affairs offices have been established to facilitate the active dissemination of agency research results and to coordinate media and public relations activities. A principal goal of public affairs is to help ___(agency)___ most efficiently achieve its agency mission through policy making based on sound and objective science.

Section 2: Rights

.01 Scientists and other staff ("employees") have the fundamental right to express their personal views, provided they specify that they are not speaking on behalf of, or as a representative of, the agency but rather in their private capacity. So long as this disclaimer is made, the employee is permitted to mention his or her institutional affiliation and position if this has helped

inform his or her views on the matter. The employee is also allowed to make reasonable use of agency time and resources for the purposes of expressing their personal views (i.e., accommodations comparable with what would be allowed on other personal matters).

.02 Employees have the right to review, approve, and comment publicly on the final version of any proposed publication that significantly relies on their research, identifies them as an author or contributor, or purports to represent their scientific opinion.

.03 Final authority over the content of and parties to any particular media communication resides with the reporter and the scientist with whom he or she communicates.

Section 3: Responsibilities

.01 Public affairs is responsible for:

- a) promoting media attention on important scientific and institutional developments;
- b) coordinating and facilitating contact between journalists and the requested agency staff;
- c) providing both reporters and scientists with timely, accurate, and professional media assistance; and
- d) providing draft press releases or other public statements to agency scientists whose work is included, to assure the accuracy of scientific information being communicated.

.02 Employees are responsible for working with public affairs to make significant research developments accessible and comprehensible to the public.

- .03 Employees are responsible for the accuracy and integrity of their communications and should not represent the agency on issues of politics or policy without prior approval from the public affairs officer (PAO).

Section 4: Media and Public Interactions

- .01 To help public affairs best fulfill its responsibilities, employees should:
- a) keep the PAO informed of any media interest or potential for interest in their work;
 - b) notify the PAO of impending media contacts and provide the PAO with a recap of the non-confidential aspects of the media conversation afterward;
 - c) review drafts of press releases written by the PAO both for their format and non-scientific content, as well as for the accuracy of scientific information being communicated; and
 - d) work with the PAO to review presentations or news conferences for their format and content to assure the accuracy of scientific information being communicated.
- .02 Public affairs officers should:
- a) respond to all initial media inquiries within 20 minutes, or as soon as possible;
 - b) do all they can to help reporters get the appropriate information needed for an article;
 - c) know the reporter's deadline to ensure timely response;
 - d) provide contact information where they will be available, even after hours, on weekends, and on holidays;
 - e) draft regional and national press releases whenever warranted;
 - f) ensure a timely turnaround on press releases (within one week or less);
 - g) develop (or coordinate the development of) talking points in collaboration with the relevant experts for the release of scientific papers and other agency products;

- h) assure agency compliance with the No Fear Act (a federal law that holds agencies accountable for violations of employee protection laws) by informing employees of their rights under federal anti-discrimination and whistleblower protection laws; and
- i) assure that as part of any relevant agency communications to its employees, the agency includes the congressional addendum required by the Anti-Gag Statute, reaffirming the supremacy of the Whistleblower Protection Act (protecting non-classified public communications) and other congressional acts over conflicting agency policies.

Section 5: Media Coverage

- .01 In the spirit of openness, media representatives must be granted free access to open meetings of advisory committees and other meetings convened by this agency, as well as permission to reasonably use tape recorders, cameras, and electronic equipment for broadcast purposes.
- .02 The PAO coordinating a meeting may be present, or consulted, to undertake all responsibilities of a news media nature, including but not restricted to necessary physical arrangements.
- .03 It shall be the responsibility of the PAO to cooperate fully with and accede to all reasonable requests from news media representatives. In instances where conflicts or misunderstandings may arise from the expressed views, wishes, or demands on the part of news media representatives, such matters should be referred at once to the director of the Office of Public, Constituent and Intergovernmental Affairs (OPCIA) for resolution.
- .04 The OPCIA director shall exercise full authority and assume responsibility for all decisions involving the news media and related activity.

Section 6: Internal Reporting

.01 The agency will offer an internal disclosure system to allow for the confidential reporting and meaningful resolution of inappropriate alterations, conduct, or conflicts of interest that arise with regard to media communications. The system shall also allow for the employee's written assessment of whether the matter was resolved to his or her satisfaction.

Section 7: Anti-gag Addendum

To comply with the Anti-Gag Statute (SEC. 820 of the Transportation, Treasury, Housing and Urban Development, the Judiciary, and Independent Agencies Appropriations Act of 2006, Pl. 109-115, passed November 30, 2005), the ____ (agency head title) ____ shall issue a general memorandum to all agency and contractor employees informing them that all nondisclosure forms, policies, or agreements are modified by the addendum below, which is incorporated by reference into all relevant agency communications and supersedes any conflicting agency policies or rules.

"These restrictions are consistent with and do not supersede, conflict with, or otherwise alter the employee obligations, rights, or liabilities created by Executive Order No. 12958; section 7211 of title 5, United States Code (governing disclosures to Congress); section 1034 of title 10, United States Code, as amended by the Military Whistleblower Protection Act (governing disclosure to Congress by members of the military); section 2302(b)(8) of title 5, United States Code, as amended by the Whistleblower

Protection Act (governing disclosures of illegality, waste, fraud, abuse or public health or safety threats); the Intelligence Identities Protection Act of 1982 (50 U.S.C. 421 et seq.) (governing disclosures that could expose confidential Government agents); and the statutes which protect against disclosure that may compromise the national security, including sections 641, 793, 794, 798, and 952 of title 18, United States Code, and section 4(b) of the Subversive Activities Act of 1950 (50 U.S.C. 783(b)). The definitions, requirements, obligations, rights, sanctions, and liabilities created by said Executive order and listed statutes are incorporated into this agreement and are controlling.

"Provided, that notwithstanding the preceding paragraph, a nondisclosure policy form or agreement that is to be executed by a person connected with the conduct of an intelligence or intelligence-related activity, other than an employee or officer of the United States Government, may contain provisions appropriate to the particular activity for which such document is to be used. Such form or agreement shall, at a minimum, require that the person will not disclose any classified information received in the course of such activity unless specifically authorized to do so by the United States Government. Such nondisclosure forms shall also make it clear that they do not bar disclosures to Congress or to an authorized official of an executive agency or the Department of Justice that are essential to reporting a substantial violation of law."

APPENDIX E

Edits to Congressional Communications
by Government Staff

Below is an excerpt of questions for the record (QFRs) asked by Senator Daniel Inouye (D-HI) following an April 26, 2006, Senate Commerce, Science, and Transportation Committee hearing on projected and past effects of climate change. The question responses include comments

and edits from scientists as well as from officials at the Office of Management and Budget and the U.S. Department of Energy, compiled by the NOAA legislative affairs specialist in charge of coordinating clearance and review of congressional communications.

Questions for the Record from the Honorable Senator Inouye
Committee on Commerce, Science, and Transportation
Hearing on Projected and Past Effects of Climate Change:
A Focus on Marine and Terrestrial Systems

April 26, 2006

2. Question: As you know, we had tragic loss of life in Hawaii due to a dam failure after a period of torrential rains. Does the National Oceanic and Atmospheric Administration's (NOAA) research suggest we will need to pay more attention to mudslides and infrastructure failure as the oceans warm and rise?

Answer: One need only look at Central America's experience with Hurricane Mitch in 1998, and California during the 1997-1998 El Niño event, to see the potential devastation that intense precipitation can bring to a vulnerable region and its infrastructure. More recently, loss of life and property due to heavy rains were reported in Hawaii (February to March 2006) and the northeastern United States (May 2006), and the early onset of the summer monsoon in India killed 38 people (June 2006). [NOAA research indicates that] intense rainstorms will bring higher probabilities of extreme precipitation, even in locations where average precipitation may be decreasing. NOAA data show increases in water vapor in the global climate has warmed, consistent with theoretical expectations. Thus, as the oceans warm and sea level rises, the compounding effects of heavy rainfall and storm surge will need to be assessed to understand their full impact on coastal infrastructure.¹

5. Question: What will be the effects of ocean acidification on the corals and associated fisheries and tourism businesses that the Pacific Islands are so dependent upon?

Answer: The full range and magnitude of the biological and biogeochemical effects of ocean acidification are still so uncertain that a reliable and quantitative estimate of the likely socio-economic effects is not yet possible. However, healthy coral reef ecosystems are important to both the fisheries and tourism industries, and negative impacts on those ecosystems could affect these industries.

Comment: DOE comment: "It is not clear for science addresses the likelihood of specific impacts which would be due to water vapor and sea level rise, not precipitation."

Deleted: One

Deleted: again

Deleted: One

Deleted: meaning an improvement

Deleted: climate

Deleted: rising to increased water vapor.
Comment: Comment from Sen. Inouye: I am concerned about the extent of water vapor, which clearly is not the primary driver of a warming climate. The statement is misleading. Water vapor in the atmosphere is a greenhouse gas, but it is a short-lived gas - it only hangs around for a few days or a week. It is not a long-lived gas like carbon dioxide. If CO2 levels in the atmosphere rise, then the amount of water vapor in the atmosphere will also rise, and this will have a significant impact on the greenhouse effect. The statement is misleading.

Comment: Only the statement is not clear. Page 1722 of the document specifies the role of water vapor in the oceans.

Comment: The above statement and comments were made by Tom Kell (one of which addresses Sen. Inouye's comment on the role of the water vapor).

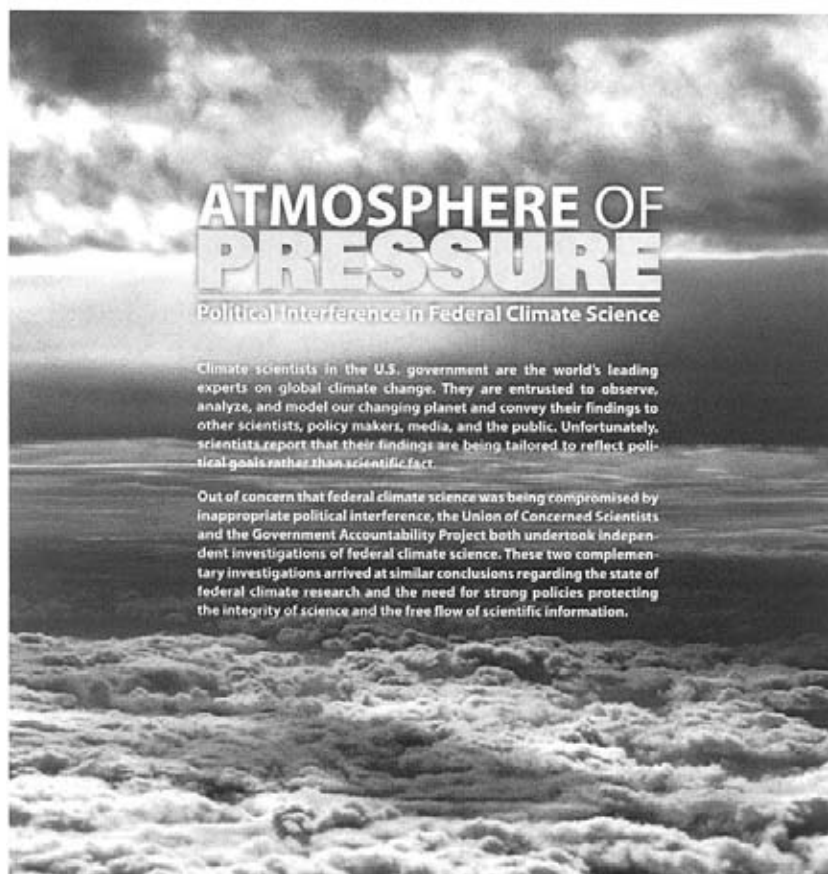
Deleted: Not

Comment: Only Comment: "As stated, the issue is unclear with the limited data source of the paragraph, which adequately answers the question."

Deleted: is

Deleted: just

Deleted: and therefore have significant water vapor impacts for the dependent oceans.



ATMOSPHERE OF PRESSURE

Political Interference in Federal Climate Science

Climate scientists in the U.S. government are the world's leading experts on global climate change. They are entrusted to observe, analyze, and model our changing planet and convey their findings to other scientists, policy makers, media, and the public. Unfortunately, scientists report that their findings are being tailored to reflect political goals rather than scientific fact.

Out of concern that federal climate science was being compromised by inappropriate political interference, the Union of Concerned Scientists and the Government Accountability Project both undertook independent investigations of federal climate science. These two complementary investigations arrived at similar conclusions regarding the state of federal climate research and the need for strong policies protecting the integrity of science and the free flow of scientific information.



Union of
Concerned
Scientists

Union of Concerned Scientists
NATIONAL HEADQUARTERS
Two Brattle Square, Cambridge, MA 02238-9105
Phone: (617) 547-5552 • Website: www.ucsusa.org

GAP GOVERNMENT ACCOUNTABILITY PROJECT

Government Accountability Project
NATIONAL OFFICE
1612 K Street, NW, Suite 1100, Washington, DC 20006
Phone: (202) 408-0034 • Website: www.whistleblower.org